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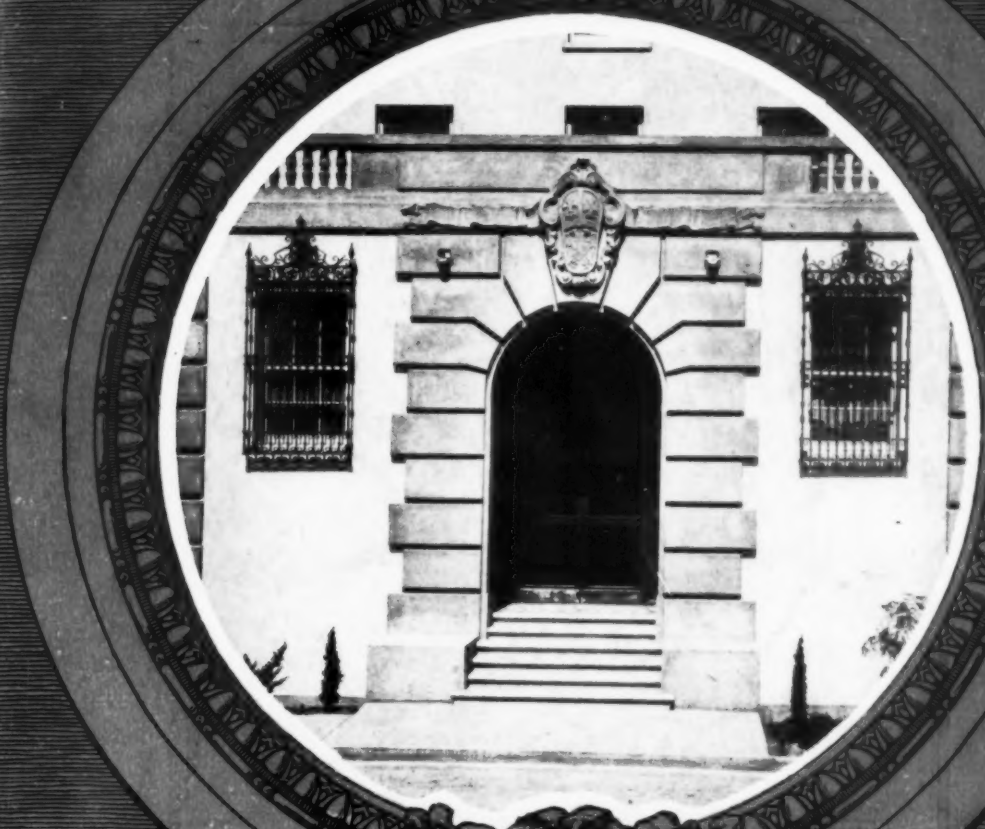

The MODERN HOSPITAL

Vol. XXXI November, 1928 No. 5

Published monthly at 660 Cass Street, Chicago, Ill., by The Modern Hospital Publishing Co., Inc. Entered as second-class matter October 1, 1918, at the Post Office at Chicago, Ill., under the act of March 3, 1879.
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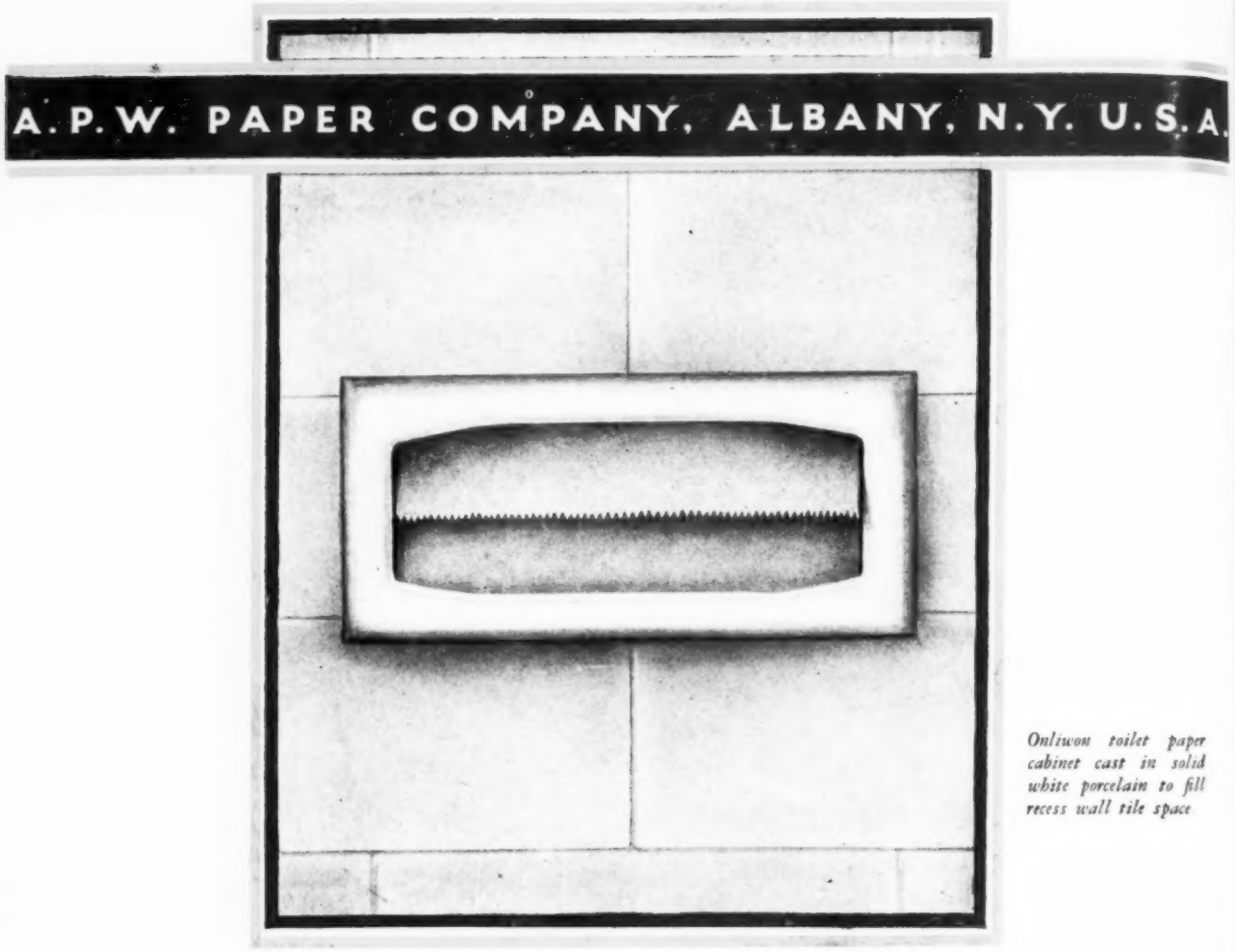

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Published the first of each month by
THE MODERN HOSPITAL PUBLISHING CO., Inc.
Charter member Audit Bureau of Circulations, member of the Associated Business Papers, Inc.
660 CASS STEET, CHICAGO—Telephone, Superior 6402
NEW YORK OFFICE—11 West 42nd Street. Telephone, Longacre 6591

SUBSCRIPTION
Domestic, $3.00. Canada, $3.50. Foreign, $4.00. Single copies (current), 35 cents. Back copies, 50c to $1.00.
Domestic rates include United States, Cuba, Porto Rico, Canal Zone, Hawaii, and Philippines.

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THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment and Administration of Hospitals, Sanatoriums and Allied Institutions, and to Their Medical, Surgical and Nursing Services

Vol. XXXI *November, 1928* No. 5

Coordinating the Relations of the Laboratory and Clinical Staffs*

By LOUIS B. WILSON, M.D.
Rochester, Minn.

THE fundamental object of a hospital is to provide a place where the patient can receive better service than he can receive elsewhere. Home treatment is being replaced by hospital treatment at a rapidly accelerating rate. Thus in the fifty years from 1873 to 1923 the number of hospital beds in the United States increased from slightly more than 35,000 to more than 770,000.

While the figures are not available for the last four years it is certain that there has been even a greater rate of increase during this period than during any previous period. It is estimated that at present in the larger cities of the United States as high as 30 per cent of the working time of all clinicians, not including hospital residents and interns, is spent in hospitals.

Hospitals were originally founded as and long remained purely charitable institutions for the medical and surgical care of the homeless and destitute. But during the last quarter century the knowledge of the superior medical and surgical services to be obtained in the hospitals has spread to all classes of citizens and is now almost universal. Pay patients now have opportunity to receive as good professional care as charity patients. That they patronize the hospital is shown by the fact that many hospitals while still granting free care to about 30 per cent and below cost care to about 25 per cent more of their patients yet receive enough from the remaining 45 per cent to defray their expenses.

*Abstract of an address on the occasion of the dedication of the new laboratory building of the Western Pennsylvania Hospital, Pittsburgh, Pa.

What are the factors that have caused this recent rapidly growing transfer of patients from the homes to the hospitals? There can be no question but that the changing conditions in the home itself have been a considerable factor. The modern small apartment or house without a "spare room" is not a much more comfortable place in which to be sick than is a boarding house.

Modern Training Favors Hospitals

There is no doubt also that the modern education and training of the physician prejudice him in favor of hospital practice. Indeed it is a serious question whether the younger medical men are not losing their opportunity to care for patients in their homes. At least two university medical schools, California and Wisconsin, have recently instituted a return to the old preceptor system by placing their undergraduates for brief periods with practitioners who give them supervised experience in caring for patients in their homes.

But it is not the changes in the social and economic conditions in the home or the educational bias of the young physician that is causing the great increase of hospital care, but the improved care, diagnosis and treatment given in the hospital.

The first trend toward hospitals came about because there the patient could receive nursing superior to that obtainable in the home. Most patients now realize that good hospitals supply not only better nursing but other things for their

physical and mental comfort superior to those they can command in their homes.

After the recognition of the superiority of the hospital in its nursing service there came recognition of its superiority as a place for surgical treatment. This recognition was tardy even after the advent of asepsis. The memory of "hospital gangrene" lingered in the public mind for a long time after the condition itself was conquered in surgical practice. Now, however, there is universal belief in the great superiority of the hospital over the home as the place for surgical operations and postoperative surgical treatment. The public as well as the profession knows the advantages of clean operating rooms, perfect instruments and trained assistants.

What the members of the public do not always appreciate, however, and what the surgeon himself does not always realize is that, aside from the superiority surrounding operative procedures in the hospital as compared with those in the home, there is another important factor in the publicity or semipublicity surrounding operations in hospitals. Every surgeon, however honest and well meaning when working alone, is keyed up to give his best service in the presence of his professional colleagues, be they young or old. This feeling is transmitted to every member of the staff and the highest efficiency of the entire surgical group is thus assured.

Why Hospital Care Is Superior

Incidentally, medical care in hospitals is likewise of a higher standard because of the participation in it of interns, residents, consultants and visiting physicians. The public is slowly coming to know that the best medical as well as surgical treatment is not that done in a corner, that the hospital offers superior opportunities for medical as well as for surgical treatment.

After the recognition of the hospital as a place where improved bodily comfort and superior surgical and medical treatment could be obtained, there has slowly developed a realization that in the hospital more certain diagnosis of the beginning and progress of a patient's illness may be made because there adequate laboratory facilities may be economically provided.

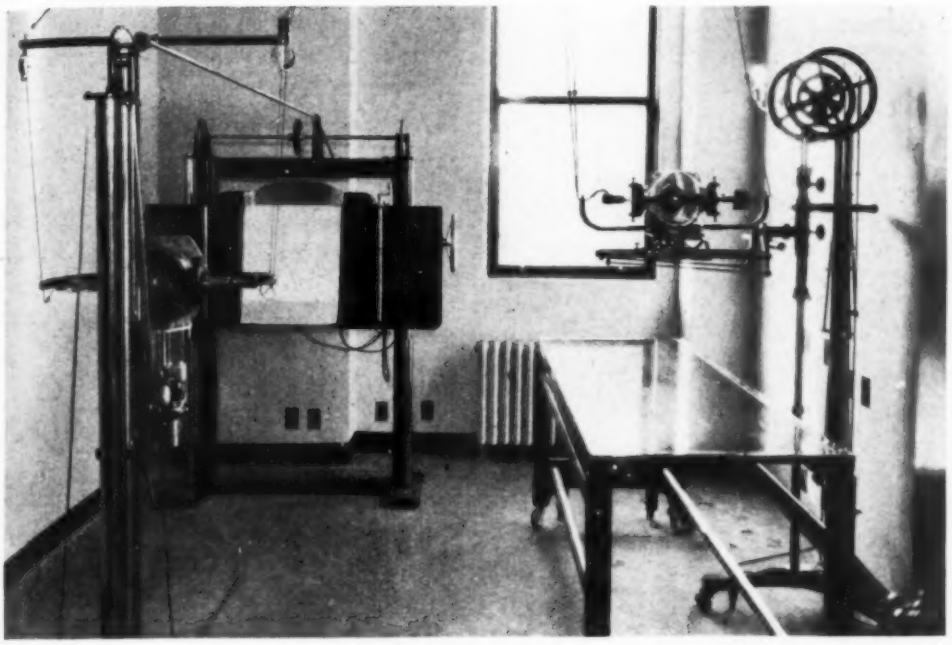
The diagnostic laboratory was developed in the physician's office. As a rule he equipped it as well as he could afford but, judged by present hospital standards, only with the simplest apparatus. He attempted only the simplest examinations for not only was his apparatus necessarily limited but usually he was his own technician and his own diagnostician and his time was greatly limited. He was careful, however, to understand fully what he did attempt and he knew not only his possible sources of technical error but also the clinical significance of his results. His efforts so far as they went, were equivalent to those of a perfectly coordinating laboratory and clinical diagnostic department in one.

In the transfer of the diagnostic laboratory from the physician's office to the hospital the results were often far from satisfactory. The reasons for the unsatisfactory results were to be found in inadequately trained personnel, both professional and technical, in attempts at complicated procedures without proper equipment and last but not least in lack of proper coordination between the laboratory and the clinical departments.

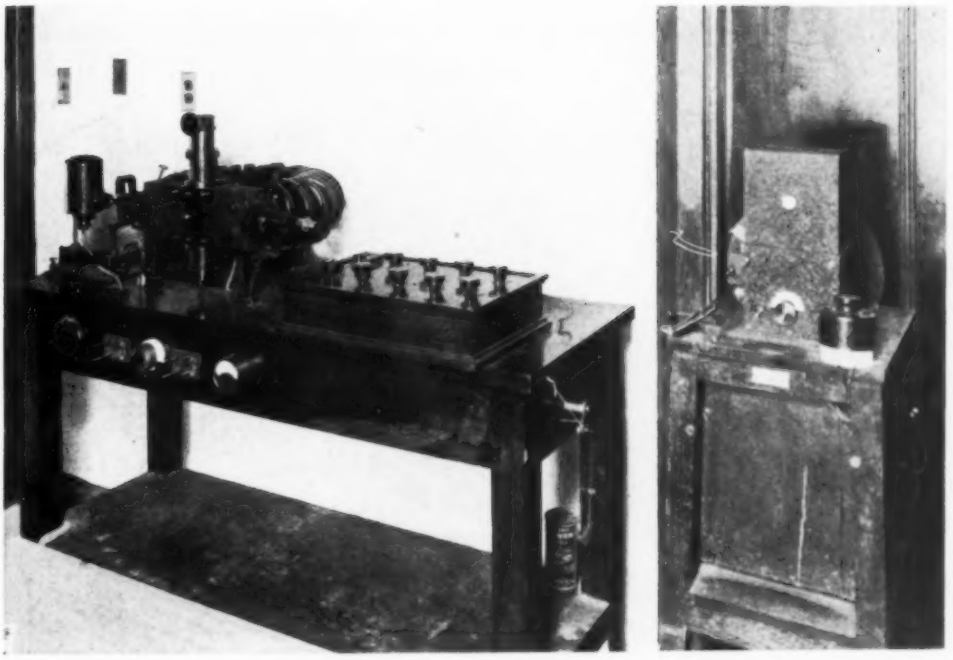
Graduates Need Practical Experience

The ordinary graduate of even the best of our medical schools is not now and never has been at graduation any more fitted to take charge of a good clinical laboratory than he is to take charge of an operating room. This is no fault of the schools because their function is to give training in the fundamentals of medicine, and, clinically, to prepare men for the general practice of medicine. It is not the function of the undergraduate medical school to fit men for the practice of specialties without further graduate training. But the man in charge of a hospital clinical laboratory must have a great deal of special knowledge which is not given and does not properly belong in the regular curriculum of an undergraduate medical school. Of course it is possible for men during their undergraduate medical studies to do special work to fit them for clinical laboratory positions and some of them do make such preparation. I am speaking only of the ordinary physician just graduated from medical school.

Unfortunately the intern-resident-assistantship training taken by most physicians after graduation, which fits them and fits them well for the care of the sick in some special field of medicine or surgery, does not include any adequate additional training in laboratory procedures. Many hospitals, however, that have established clinical laboratories for economic reasons and because of the difficulty in obtaining adequately trained clinical pathologists, have placed in charge of their laboratories men on their medical or surgical staffs who are as incapable of directing the technical work of the clinical laboratory and in many instances also of interpreting the results, as would the intern be incapable of conducting major surgical operations. And the fact should not be lost sight of that the inexperienced laboratory officer is in a position to do as great harm as is the inexperienced surgeon.



The x-ray diagnostic apparatus shown on the left has proved to be of inestimable value in making diagnoses.



On the right is shown the electrocardiograph at the new laboratory of the Western Pennsylvania Hospital, Pittsburgh.

Under such circumstances there has frequently been an attempt made to find in nonprofessional help such technical skill as would substitute for the lack of technical training on the part of the nominally directing physician or surgeon. In some instances the substitute has apparently been efficient and satisfactory. In many instances, however, necessary refinements of technique have been lost sight of, valuable procedures have been abandoned and the laboratory has ceased to render service of much value to the patient.

The greatest difficulty, however, has been to find enough physicians properly trained to interpret laboratory results. It is difficult even now to obtain enough men with special training equal to that recommended for directors of clinical laboratories by the American Medical Association[1]; the American Association of Pathologists and Bacteriologists, the American Chemical Society and the American Society of Clinical Pathologists. These are as follows:

"The director of an approved clinical laboratory should be a graduate of an acceptable college or university of recognized standing, indicating proper educational attainments. He shall have specialized in clinical pathology, bacteriology, pathology, chemistry or other allied subjects, for at least three years.

[1] Essentials of an approved clinical laboratory. Jour. Am. Med. Assn. 1927, lxxxiii, 837-838.

"The director may make diagnoses only when he is a licensed graduate of medicine, has specialized in clinical pathology for at least three years, is reasonably familiar with the manifestation of disease in the patient and knows laboratory work sufficiently well to direct and supervise reports."

The hospital clinical laboratory, however, has been more generally successful in securing the services of physicians competent to furnish information concerning the condition of the patient at the time of his entry to the hospital and of the progress of his disease during occupancy of the hospital than in securing those competent to check either at the biopsy or necropsy clinical diagnoses and treatment.

The pathologic examination of material removed by the surgeon, especially while the information obtained may be of use in the further treatment of the patient from whom the material was removed, does not require any elaborate additional equipment of the clinical laboratory, but it does require so much additional training and judgment on the part of pathologists that not a great many have been found whose advice, based on the histologic examination of pathologic material, is materially better than the information that the surgeon himself is able to obtain by the gross examination of the tissue *in situ* or after its removal.

What the Pathologist Must Know

Most of the class A medical schools in the United States give good training in the microscopic study of pathologic tissues. This training, however, is based for the most part entirely on the study of sections of tissues that have been prepared by fixation and lengthy subsequent procedures before they find their way to the microscope. The histologic examination of sections of tissues removed at operation, to be of most value to the patient, must be completed and reported upon within a few minutes after the tissue has been removed. This means a rapid preparation of tissues, the technique of which anyone can readily learn, but, what is much more important, it also means training on the part of the pathologist in the interpretation of the microscopic pictures of tissues neither shrunken nor swollen from fixation and usually stained by dyes very different from those with which he has been familiar during his student days.

The training of most American medical students, both as undergraduates and as interns, in the conducting of necropsies and in interpreting the conditions found at necropsy is woefully inadequate. Few of the applicants for fellowships in The Mayo Foundation, men for the most part with enviable records in the best American medical schools and with an average of two years' residence in good American hospitals, have actually conducted or assisted in as many as ten necropsies. They have witnessed in most instances a considerably larger number, but it is doubtful if any physician is capable of performing a necropsy satisfactorily or of giving valuable judgment on the conditions found therein until he himself has made under skilled supervision at least 100 such examinations.

Too Few Necropsies Are Made

At present in the United States we do not have nearly enough men to make and properly evaluate necropsies in as many hospitals as are now attempting to increase their necropsy service. And, on the other hand, we have few hospitals in the United States in which a sufficiently large number of necropsies are being performed under skilled supervision to provide opportunities for training men to perform them.

Incidentally we are accustomed as a medical profession to bemoan the lack of necropsies and place the onus of their absence on the public whom we accuse of not being willing to give consent for the postmortem study of their dead friends. I am sure, however, that the fundamental reason for the low percentage of necropsies in many hospitals in America lies with the medical profession itself. While there are not enough pathologists competent to make necropsies of real value in checking diagnoses and treatment, I regret to say there are still some clinicians who are apparently uninterested in having their diagnoses and treatment checked.

In a survey of 900 hospitals in the United States and Canada made three years ago by Davidson[1], it was shown that while in 80 per cent the laboratory work was supervised by a pathologist, in only 40 per cent was there a full-time pathologist. How is improvement to be made in the supply of adequately trained laboratory physicians and technicians? I can see no other way than for every well equipped laboratory to offer opportunity for qualified apprentices to fit themselves for laboratory technical positions and for recent medical graduates to fit themselves as laboratory consultants.

The maintenance of sufficient nonprofessional technical laboratory help is not ordinarily a difficult matter after an institution is well started. The occupation of laboratory technician is becoming more and more well recognized as a desirable one for college or high-school graduates. In the

[1] Davidson, S. G., Laboratories in hospitals. Tr. Am. Hosp. Assn., 1924.

long run it is paid as well as nursing. Its duties are less confining than those of nursing.

The special training of undergraduate or graduate physicians for laboratory duties is inadequately provided for in most hospitals. Aside from a brief period in a rotating service during internship there is little provision made for recent medical graduates to obtain a laboratory training, and at the same time a living, over a sufficient period to enable them to become expert in laboratory procedures and laboratory diagnosis.

The principle might well be more broadly recognized that the well-to-do patient of to-day may properly be expected to give financial support to the better training of the physician who will diagnose and take care of the charity patient of to-morrow. This means the establishment of positions for the junior medical staff of a laboratory which will give at least as good opportunities and as adequate remuneration for young physicians to specialize in laboratory fields, as are now given to men with similar training to specialize in surgery or other branches of clinical medicine. All this means that hospitals must gradually increase their laboratory budgets to a much higher ratio than one-fortieth of their total expense, which is the rather usual ratio at present.

Having thus indicated somewhat in detail the character of work that may be expected of the modern hospital laboratory and the methods of training and the professional requirements of its staff, let us see how these things affect still further the relationship of the clinical staff with that of the laboratory.

Hospital Work Must Be Cooperative

The relationships of the professional staff in the laboratory to the clinical staff of the hospital have always been pleasant but in recent years have been rapidly becoming much better coordinated. The physician who sees his patients entirely in their homes quite properly regards himself as solely responsible for their care. The moment, however, he brings a nurse into cooperation with him in the care of the patient, either in the home or in the hospital, he must recognize that the responsibility is somehow divided and that blame or credit is really shared to some extent by the nurse.

When the patient is transferred from his home to the hospital so much of his welfare depends on the hospital, the nursing staff, the resident physicians and interns and the laboratory, that the physician's primary responsibility is still more greatly reduced and inevitably shared more and more by others. The hospital care of the sick is a well organized cooperative affair, with the physician in charge ultimately entirely responsible but far from wholly initially responsible for its effective progress.

Attending physicians have not always recognized as fully as they might that the interests of the laboratory physician in the patient are similar to their own, so far as initial responsibility is concerned. Everything, of course, turns on what will be for the best interest of the patient, and the clinician is likely to have an unconscious bias because 70 per cent of his time is devoted to home and office practice, in both of which the immediate responsibility for, and entire control of the patient rest with him. That much the greater portion of the physician's professional work forces him into a direct and personal relationship with his patient is suggested by the all-inclusive way in which he says, "My patient." When, however, the patient is transferred to an organized hospital some of the physician's possessiveness must drop out because of the great share in responsibility for the patient that must be taken by others. The clinician sometimes does not change his attitude to meet the cooperative conditions necessary in hospital treatment and this is to the detriment of the patient's best interests.

Laboratory Reports Must Be Unbiased

On the other hand, there is sometimes a tendency in the laboratory department toward what might be called an academic attitude. Of course, the laboratory director must preserve to a great extent an impersonal viewpoint. For example, he must not hesitate to report the presence of even one bacillus of tuberculosis in sputum from his best friend or the presence of beginning malignancy in a section of tissue from a young and prominent member of the staff any more than he would hesitate to report similar findings in specimens from a beggar. Nor must he hesitate to report to the best surgeon on the staff that it was the surgeon's error that proved fatal to the patient whose body he just examined postmortem.

But the laboratory director must not assume that all laboratory findings are infallible or even when they are absolutely true that they necessarily are the only factors in diagnosis. He must keep in mind that the fundamental object of his work is the utmost contribution possible to knowledge of the pathologic conditions of the patient. Generally speaking the more he keeps the patient in mind, rather than the specimen he is examining, the better service he renders.

A number of attempts have been made to formulate the relationships of hospital clinical and laboratory staffs. Thus the board of governors of the American College of Surgeons at its

meeting in November, 1924, unanimously adopted the recommendations of a committee on the general requirements for pathologic laboratories in hospitals which include the following paragraphs:

"1. The director of a pathological laboratory shall be a graduate in medicine of an acceptable medical school. He should have had, if possible, some clinical experience. He should have an equal rank in the hospital organization with the attending physicians and surgeons and should be a member of the medical board of the hospital.

"2. The laboratory department of the hospital including the usual divisions of bacteriology, chemistry, serology and pathology, shall be equal in rank and coordinate with the medical and surgical services of the hospital.

"3. The director of the laboratory shall be responsible to the physicians in charge of the patients for the interpretation of all laboratory findings although the technical execution of the various tests might well be done by assistants or technicians who have not had medical training."

Laboratory Director Serves as Consultant

These and the other recommendations of the committee, adopted by the American College of Surgeons, have since been in process of promulgation by that body and in slightly modified form by the American Medical Association and the Society of Clinical Pathologists. Complete agreement in some of the details has not yet been reached, but the general policy of making the director of the laboratory responsible for the interpretation of the laboratory findings to the physician in charge of the patient, and therefore of necessity placing him in the position of associate or consultant with the clinician is universally accepted by the organizations mentioned.

The recommendation with regard to the interpretation of all laboratory findings to the physician in charge of the patient sometimes needs to be extended or clarified so that everyone may understand that it includes the interpretation of negative laboratory findings as well as positive. Frequently the significance of negative results is wholly misinterpreted, when a consultation between the physician and the laboratory director might clear up matters quickly. I can recall two instances of this sort in my own experience. The first was that of a generally competent, but in one respect inexperienced, practitioner who was quite nonplussed by repeated negative reports on blood tests for typhoid fever, but whose patient really had small-pox. In another instance a physician censored the laboratory emphatically because cultures from throats of patients in one of his own families failed to reveal the bacillus of diphtheria. After consultation with the laboratory staff, the physician found that his patients were really affected with a virulent type of scarlet fever.

In some of the more complicated serologic tests, negative evidence is valueless in disproving the presence of disease unless every step in the procedure, including the collection of specimens, has been checked with the greatest nicety. It may not be amiss to cite certain regulations in force in our laboratories that we have found promote accuracy. For example, sputum is collected only in standard receptacles. End reactions of intracutaneous tests for tuberculosis are read only in the laboratory, after a standard time, in a standard light and by an experienced physician. Even in these days of prohibition, patients must be warned not to take alcohol for twenty-four hours before a Wassermann test. The laboratory is supplied with information as to a history of syphilis, the character of recent treatment and the other reasons if any, (lesions for example) for requesting the examination. Ambulatory patients whose stools are to be examined for parasites go to the laboratory where provision is made for the satisfactory collection of the stools and their immediate examination. Unequivocal cooperation between clinician and laboratory consultants is also absolutely necessary.

Clinician Must Gauge Urgency of Examination

If the physician in charge of the patient is careful not to ask at unseemly hours for laboratory examinations about which there can be no possible haste, he has the greater right to demand undelayed service in those examinations concerning which there is need for haste. A definite understanding between the clinical and laboratory departments as to the general type of examination demanding speed and others that may or must be delayed, is important, but in the last analysis the clinician must use his best judgment in each case, concerning the necessity or importance of each examination. He must remember, however, that complete blood counts are rarely of any value except in suspected diseases of the blood, spleen and lymph glands, or in severe types of anemia with hemoglobin of 60 per cent or less; that differential blood counts should be made only when there is special indication, as in pernicious anemia, hemophilia, polycythemia, large spleen or enlarged lymph nodes; that blood for special tests in cases of anemic, hemophilic and chronic jaundice, including volume index determinations and van den Bergh tests should all be collected at one time, thus saving the time of the laboratory staff and avoiding unnecessary venipunctures, and that the measurement of basal metabolic rates, except

in suspected aberrant thyroid conditions, is rarely warranted unless as a matter of pure research, requiring an immense amount of material, including adequate controls.

I mention these few instances merely as illustrations of ways in which the clinician may save needless waste of time and money for the laboratory and the hospital. Nothing exasperates a competent laboratory staff more than to be asked to make examinations of material already ruined by faulty methods of collection, or to make lengthy tests that long since have been shown to be of no significance in the condition indicated clinically. The clinical examination must be sufficiently thorough to indicate the probably fruitful lines of laboratory investigation.

It may not be amiss here to speak of the importance of a clearly defined policy in the hospital concerning certain semiclinical procedures and serologic treatments, for example, which are sometimes passed over by the clinician to the pathologic laboratory. It is doubtful if the best interests of the patient are ever properly served by the administration of treatment of any sort by a pathologic laboratory. It is possible that it may be satisfactorily done under laboratory supervision. But if the clinician is to maintain any degree of his responsibility for the care of his patient he certainly must retain that which comes from any form of treatment. The pathologic laboratory's relationship to treatment serves the best interest of the patient when it is purely diagnostic and inspectorial. Of course, this does not apply to roentgen ray and physiotherapeutic laboratories in their therapeutic departments, which are developed fundamentally for giving treatments.

Pathologist Should Request Necropsy

There is, however, one relationship between physician and patient which it seems to me is always better maintained by the laboratory staff than by clinicians. I refer to the consultation with relatives of the dead concerning permission for necropsy. The attending physician who, during the patient's illness, has not infrequently come in contact with the patient's relatives is sometimes at a serious disadvantage when he approaches them, in case of death, with a request for a necropsy. One of the strongest arguments in such a request is a statement of the general truth that postmortem examination, in a large majority of cases, reveals important facts that previously have not been known. The physician who states this gives the impression that it is his own personal experience. The pathologist who states it gives the impression that it is a general experience. In the former case a prejudice is sometimes aroused against the physician; in the latter, none is aroused.

It is also true that the attending physician not infrequently has received some impression during his patient's illness that either the patient himself or his friends would be averse to a postmortem examination. He is thus handicapped at the beginning of his interview with the friends. The pathologist, on the other hand, has received no such impression and will always proceed on the assumption that the intelligent friends should know and have the right to know all that can be found out concerning all of the conditions of disease in their dead relative. This latter assumption, an appeal to the personal interest of the relatives of the dead, is the strongest appeal I know of in securing consent for necropsy.

Who Shall Explain the Findings?

After the necropsy is made who shall explain the findings to the friends? It has been our unvarying custom for the pathologist to perform this duty. He is less likely to arouse adverse feeling on the part of the friends than the clinician and with experience he does it more skillfully and in simpler language than the clinician.

The policies here outlined for obtaining consent for necropsies and for telling the friends the truth concerning the findings have brought us during more than twenty years consent for necropsy in an average of 85 per cent of all deaths and have never yet brought us a malpractice suit. They have also resulted in educating the public in many localities from which our patients come with regard to the importance of necropsies.

No angle of the relationship between clinician and laboratory director is more important than that represented in the clinical-pathologic conference. These conferences, especially on cases that have come to postmortem, are becoming more and more common. It seems to me, however, that in some instances they fall short of what they might accomplish by the failure to recognize certain principles. For example, our experience leads us to the belief that it is all-important that the conferences be held while the facts are still fresh in the memory of all concerned, rather than merely preserved in history and protocol. This means that the conferences should be held at least once a week, even though each clinician may have been present at all of the necropsies on his own cases. All clinicians and pathologists on the staff should be present at all conferences but no one else should be present. Visitors should not be permitted. Such an arrangement leads to utmost frankness without producing hard feelings.

At the clinical-pathologic conference it is wise to discuss all deaths, including the reasons why permission for necropsy was not obtained. The lantern projection of an abstract of the history and the protocol of the necropsy, as well as direct projection of tissue slides by the microscope and the demonstration of gross specimens are great aids to an understanding of the facts.

There is occasional need also for general conferences between the clinical and laboratory staffs of the hospital concerning examinations other than necropsies. A staff luncheon once in a while offers a convenient occasion for such a conference.

Research Should Be Encouraged

What is the character of research, if any, which should be conducted in a hospital laboratory? Shall it be limited to checking up the work of others, to testing newly proposed laboratory procedures or the pathological basis of recently suggested methods of diagnosis and treatment? I should strongly deprecate the confinement of the laboratory staff to such tasks in the name of research. Even an old watchdog soon becomes disgusted with the job of proving false the hasty alarms of a puppy. While such checking of new procedures is sometimes necessary not only in the interest of science but also in the interest of the patient, the limiting of the laboratory to such duties alone makes their extraroutine work monotonous and unprofitable.

Perhaps someone may question whether research is at all a function of the hospital laboratory. I hold that any physician, be he clinician or laboratory director, who in his work receives any suggestion that gives any promise whatsoever of the revelation of a new truth or new combination of truths, and who, either by selfishness or indolence fails to follow out that suggestion, is reprehensible. On the other hand, the chasing of every scientific butterfly that wings its way across the horizon of either clinical or laboratory department of a hospital is stupid, futile and unworthy of the name of science. It is well established that except for the individual long trained in scientific research, the man who starts helter-skelter after some suggestion of his own or of his associates without careful consideration and consultation with others, not only as to what has already been done along similar lines but also as to the ways and means of accomplishing any possible results in the field, is doomed to disappointment. It is our experience that some of the best suggestions along the line of basic as well as clinical research come from clinicians, and it is also our experience that the methods of procedure they suggest usually are not likely to prove fruitful. The laboratory director should, of course, have good training in research methods, not the least of which in clinical fields is in the study of controls. His mind should be open to suggestions from the clinical staff concerning problems that need solution for the benefit of the present and future patients in the hospital, but he will usually need to plan his own methods of attack.

I cannot see why the personnel of a hospital laboratory should be driven to engaging in research on fundamental problems unsuggested by and apparently unrelated to the clinical or laboratory work of the hospital. I know I may be in serious disagreement in this respect with many laboratories. Of course there are exceptions to all general rules and every research man works best on problems in which he has a personal interest, but it appears that any problem is most likely to be solved when its various phases may be attacked with the assistance of men especially expert in the particular fields concerned. But the hospital laboratory usually does not have the assistance of the expert general chemist, of the physicist, of the anatomist or of the embryologist. The pathologist in the hospital laboratory may well leave to his colleague in the university those problems which, from their fundamental nature, require light to be shed on them from associated fundamental sciences, while he concerns himself with those problems on which he can get clinical advice and clinical experience from his clinical confreres in the hospital. He will usually need all the assistance he can command along purely fundamental lines to solve even a small portion of the vital problems that confront him.

Departments Must Be Coordinated

To sum up then, the patient receives better service in the hospital than in the home in regard to personal comforts, nursing, medical and surgical treatment and laboratory aids to diagnosis. The patient's physician is responsible for seeing that these services are so coordinated that they best serve the patient. Wise coordination preserves the autonomy of each department. The laboratory department furnishes original diagnostic data to the clinical departments, advises with them concerning their interpretation, and, in the event of death, seeks out and apprises them of all errors in diagnosis and treatment. Besides a medical education and preferably also some clinical experience, the laboratory physician needs special and thorough graduate laboratory training. He is a consulting physician and his laboratory should provide the best atmosphere in the hospital for clinical consultations.

Should the School of Nursing Be Freed From Hospital Control?

A Paper From the American Hospital Association Meeting

By G. W. OLSON
Superintendent, California Lutheran Hospital, Los Angeles

LITERATURE dealing with nursing education has been enriched in recent years by a number of significant publications. Chief among these are the report of the Rockefeller Committee on Nursing and Nursing Education in the United States; M. Adelaide Nutting's book, "A Sound Economic Basis for Schools of Nursing," and most recently, the preliminary report of the Committee on Grading of Nursing Schools, prepared by its director, Dr. May Ayres Burgess, and published under the appropriate title, "Nurses, Patients and Pocketbooks."

Besides these major publications numerous magazine articles have appeared dealing with questions related to nursing education, in all of which is evident a marked trend toward the separation of the school of nursing from the hospital and toward its establishment upon a basis of autonomy. Does the school of nursing, in the interest of nursing education, need to be freed from hospital control? An unbiased study of recent literature on the subject, presenting conditions that are undeniably actual, cannot fail to cause one to incline toward an affirmative answer.

Apprentice System in Force

While the educational standards of our individual hospital schools, under state regulation, have been raised immeasurably, much of the apprentice system is still in force. Students are recruited because they are needed to staff the hospital, regardless of whether there is a chance for them to make a living in their profession after graduation. The ambition of every hospital has been to run a training school, to expand the school with the growth of the hospital, to build a nurses' home commensurate with the size of the institution and to keep this home filled to capacity. This cannot go on unchecked. The time has come to consider a change in our methods.

Nursing educators, who must be acknowledged as authorities, have reached the conviction that the time has come to release the nursing school from the bond of apprenticeship by which it is tied to the hospital. They frankly state the reasons that have convinced them of the necessity for this change. Here are some of them:

"Schools of nursing everywhere rest upon an unsound and precarious financial basis. Few of them are endowed or have any definite, assured resources for the conduct of their work beyond the provision that the hospital, whose nursing service the school is supplying, is from year to year able and willing to make. Most hospitals find it hard to get enough funds to keep their legitimate work going on a satisfactory basis. They cannot contribute to the support of schools. On the contrary, they must use the schools to help support the hospitals."—M. Adelaide Nutting, "Some Essential Conditions in the Education of Nurses."

Nursing Leaders Favor Change

"While standard professional education, such as law and medicine, architecture and engineering, has long outgrown the apprentice stage, and even such callings as journalism, business and social work are rapidly moving toward an ordered educational scheme, the training of nurses remains one of the few survivals of this earlier and largely outworn type of education. The nurse in the vast majority of cases still receives her professional training not in an educational institution independently endowed and organized as Florence Nightingale conceived it, but in a training school which is a part of a hospital and responsible for furnishing its nursing service. Such a school shares inevitably the essential weakness of the apprentice system; its first liability is service production, not education."—Report of the Committee for the Study of Nursing Education.

Again we quote Miss Nutting: "The system under which the school of nursing functions today belongs to a primitive stage of social organization. Its basis is a form of apprenticeship, centuries old, a survival of the past in striking opposition to other modern forms of education."

And from recent discussions by other persons

who have studied the subject thoroughly the following statements are quoted:

"The present system does not allow a superintendent of nurses to think in terms of how many students she can educate properly instead of how many she needs to staff the hospital."

"Present day training inclines toward too narrow a scope."

"The nurse must have a broader view of her profession than her own hospital gives her."

"Our present system of training produces a lot of weak nurses. They are all right under home supervision, but lost when thrown on their own resources. They feel the need of the mothering of their own hospital."

"The present day graduate knows only the work of her own hospital and is not prepared to face the many perplexing problems the future will inevitably bring."

In support of the last two statements an excerpt from Dr. Burgess' report is offered: "Because supervision of the hospital training school is so exceedingly strict, it becomes possible for the school to admit as students many young women who will be useful hands and feet in the hospital wards, but who are not at all safe prospects to go out into the completely unsupervised graduate activity of private duty nursing after the hospital is through with them."

In the face of the authoritative statements quoted, with all due regard for the splendid character and high ideals of our denominational hospital nursing schools, I feel that we can no longer defend the individual hospital school as being the best that can be devised in the interest of nursing education.

How Hospitals Could Cooperate

This brings us to a consideration of the question: How would the hospital be affected by nursing school autonomy?

It is assumed that the separation of the school from hospital control will be brought about through the earnest efforts and whole-hearted cooperation of those hospital authorities and educational leaders in the community who are interested in nursing education. Their action will result either in the incorporation of the school with a separate board and an affiliation with the hospital of which it has been a part, or in the incorporation of a local college of nursing with which two or more hospitals may affiliate. A provisional pattern for the latter type of institution is to be found in the central schools of instruction now functioning in a score or more cities.

A recent example of the first named type of separation of control is to be found in Santa Barbara, Calif., where the school of nursing of the Santa Barbara Cottage Hospital has been incorporated as the Knapp College of Nursing, under a separate board and with a contract of affiliation with the hospital as the practical training ground. In the process the school received an endowment and was given the name of the person memorialized by the generous gift. The contract of affiliation provides that the hospital pay to the school a certain amount for each student's services in the hospital. This payment goes entirely to the school, supplementing the endowment income, as do also the tuition fees paid by the students. One cannot fail to be impressed with the high educational basis upon which nurse training is placed by such an arrangement. Students are selected by the school authorities, not by the hospital management. Requirements for admission are high, attracting applicants of a superior quality. It should be no more difficult for groups of hospitals to cause such colleges of nursing to be established in the larger centers than for this one hospital to do it in a small community.

Meeting the Cost

But what about the cost and how is that to be met? Is it true then that the present system is of great financial advantage to the hospital? Few are willing to admit that it is, and many are ready to prove that it is not. Elizabeth A. Greener's report on budgets for schools of nursing, presented to the National League of Nursing Education at Detroit in June, 1924, gives the sum of $1,285.15 as the cost to the hospital of teaching and maintaining a student nurse for one year. The California Lutheran Hospital maintains a school of 120 students and the cost for each student as calculated and in part estimated—we do not keep separate accounts for the school—is placed at $800 a year. That is $96,000 annually. By cooperating, the denominational hospitals in Los Angeles could support an excellent college of nursing with an outstanding faculty and splendid teaching equipment, on a per capita outlay no larger than their present cost.

The details of organization and operation of such a school are matters for educators to work out, but it is a fascinating subject for the hospital administrator. Applications to such a school would be handled by a central committee on which the affiliated hospitals should be represented by their superintendents of nursing. Applicants should be requested to state their preference, if any, as to which of the affiliating hospitals they wished to receive their practical training in. Nat-

urally many would express a preference. On the other hand so many would leave the choice to the coordinating officer of the school that no student would have to be assigned to a particular hospital against her wishes. A satisfactory distribution among the hospitals therefore should not be difficult. Affiliations would be made with various special hospitals, such as babies', children's medical, children's surgical and orthopedic, in order to give every student a well rounded training.

Regulation Would Be Easy

The number admitted to such schools of nursing could be limited in the same manner as in schools of medicine. Students would pay a registration or tuition fee. During their training period in the hospital they would be supplied with uniforms and given their meals. They would live in their own homes, or in students' residences provided by the school at nominal rental, or in the nurses' residences of the hospitals, there likewise paying a small rent. Under this plan local students should not be compelled to move away from their own homes, and students from outside who preferred to live with relatives or with friends in the city should be permitted to do so. No student should be forced to live at the hospital or in the school dormitories, if indeed any such dormitories would be provided.

Such an arrangement would be a boon to hospitals whose nurses' homes are inadequate for their needs under the present system. It would save them the investment of hundreds of thousands of dollars on housing facilities, to say nothing of the subsequent carrying charges and upkeep. Their present homes would not become useless for they could house the nursing department officials and supervisors of the hospital, the graduate general duty nurses and those nonresident students who doubtless would choose to rent quarters in the nurses' home of the hospital.

A college of nursing similar to the one here described would no doubt become a popular school and would benefit by liberal gifts and endowments. Its usefulness would be readily understood by every thinking person. Vocational education is favored and fostered to-day as never before, and here is a vocation of the highest order. It would be comparatively easy to secure a scholarship for every poor girl of outstanding ability.

But are we not now in the development of our plan brought face to face with another problem that, to the denominational hospitals in particular, looms large—the regulation or control of the life of the student?

With what difficulty do we free ourselves from the bonds of tradition even in this progressive age. "We have got to get over being traditionally minded in this matter," said Mary M. Roberts, editor, the *American Journal of Nursing*, in discussing nursing education recently. What are the traditions that still influence us in our consideration of the training of nurses and which modern thinking must characterize as medieval? I quote again from the Rockefeller report:

"Nursing dates from far back of the Christian era, as a natural exercise of the maternal instincts of women. During the Middle Ages it became a function of religious orders, and with that persistence of accepted ideas and conventions that marks all human affairs, there survives to this alien day, as ideals deemed appropriate to nursing, the monastic ideals of asceticism, self-abnegation and obedience to authority.

"To these monastic influences there must be added further the influence of the military model which it was natural that the first hospital training schools should adopt, following as they did so closely upon Florence Nightingale's Crimean episode and her reorganization of the army medical service.

Old Traditions Are Passing

"These monastic and military traditions have, until very recently, dominated to an extraordinary degree not only the actual working of the schools of nursing but our habitual thinking about them. It has been an accepted tradition that the nurse in training should yield to her superiors an obedience that transcends even that of the good soldier, for it has no court of appeal; and that she should be governed by a sole dedication to duty which is derived from the earlier religious devotion of votaries.

"But in a modern world and with the entrance into the training schools of young women actuated by the same mixed motives that actuate their contemporaries in other pursuits, these traditions are bound to be modified."

In the modern type of nursing school these traditions will not only be modified but wholly superseded by the new law of self-government, which accords to the carefully selected, intelligent, healthy, honest and self-reliant students, the "freedom to live their own lives under conditions that they themselves can control," according to Prof. Marian Coats, president, Sarah Lawrence College.

Given the character of students who would be selected under the plan of admission to our school, we should not need to fear to let them live at home. If young women studying music, art, stenography, bookkeeping, or preparing themselves for teaching, can be trusted to live without

cloistral inhibitions, why should it be necessary to impose them upon students of nursing? We could expect better scholarship under the new plan, for we would be free to insist upon it. Every principal of a training school knows how difficult it is under the present system to get rid of a mediocre student when she is regarded as an exemplary resident of the nurses' home. Under the new plan students weak in performance could be eliminated.

The privilege of living at home would result almost certainly in a larger proportion of enrollment of students within the city. Every superintendent of a church hospital in a large city knows how few young women enter training from the churches, largely because neither mothers nor daughters relish the idea of the cloistral seclusion at the hospital and the restrictions on visits to relatives, when the home is so near.

As a closing thought, the sentiments of a noted nursing educator, Isabel M. Stewart, R.N., Teachers College, Columbia University, expressed at Boston in June, 1921, seem particularly appropriate:

"This is a critical period in nursing education and we must see clearly and build wisely if our work is to stand for the future. The first essential is that we should clear the ground of the old outworn or unsound timbers which are giving way under the strain of modern demands and the spirit of a new age. Then we shall be better prepared to rebuild our structure, using the best materials and a sounder foundation, fashioning the whole plan on broader lines to accommodate the widely varied activities of our modern profession of nursing. We shall not be alone in this task of reconstruction. In many other fields of work old ideas are being discarded and new experiments are being tried. If we have faith in our work and in the world's need of it, we shall not fail."

Lessening the High Cost of Maintaining a Hospital

That there is no such thing as low cost of maintenance in the operation of a hospital is the opinion of Dr. George O'Hanlon, medical director, Jersey City Hospital, Jersey City, N. J., who spoke on hospital construction principles at the meeting of the New Jersey State Hospital Association in Atlantic City. But those who are responsible for the administration and construction of hospitals can hope to lessen the cost by careful attention to small details.

Accessibility of the site is an important consideration, Dr. O'Hanlon pointed out. The site should be convenient to lines of transportation, and should be chosen with respect to the potential growth of the immediate surrounding sections.

Compact buildings are more satisfactory than low rambling structures. It is much better to go up into the air, and have the additional amount of land available for light and air, at the same time guaranteeing against noise from the neighborhood.

From Dr. O'Hanlon's viewpoint a consideration of all the hospital services, and their relation each to the other, is necessary. For instance, whether the service from the central kitchen is better than having individual diet kitchens; the relation of the utility rooms; and the arrangement of the wards and private rooms for the maximum of efficiency and the minimum of effort on the part of the nurse.

"Fireproof buildings, of course, are the only type of buildings to be considered," said Dr. O'Hanlon. "An average of one fire in a hospital occurs every day in the year in this country. In order to make the buildings fireproof as far as possible we should equip the buildings with fireproof furniture. Storage of x-ray plates is another fire hazard."

Other items listed by Dr. O'Hanlon included the following:

Gas and electricity may be used for heat if they are available, with a saving on the services of firemen and engineers. They are also cleaner than coal.

It is always cheaper to use brass rather than galvanized iron pipes, since the galvanized pipes begin to rust within a few years.

Incinerators are expensive items of equipment, and if there are other practical ways of disposing of garbage and refuse they should be used. An "open" radio is an inexpensive item, but individual ear phones extending from a central point, are expensive.

Taxing the Income of the Private Hospital Conducted for Profit

What exempts a hospital from the payment of income tax?

According to an opinion recently handed down by the income tax unit of the Federal Internal Revenue Department and published in the *Ohio State Medical Journal*, a hospital to be exempt from such taxation "must be organized and operated exclusively for religious, charitable, scientific, literary, or educational purposes," and "its net income must not inure in whole or in part to the benefit of private shareholders or individuals."

The case cited was that of a company that built a hospital and later under contract turned it over to a physician as superintendent for life, leaving full control in his hands and using the net income to expand the hospital facilities. He was allowed to appoint such other physicians as he wished for special service in the institution and was allowed the benefits of the hospital for his private practice.

The opinion stated that such a hospital cannot be exempt from income tax under the supervisions of 231 (6) of the Revenue Act of 1926, because "the company is a private hospital operated for the benefit of the doctor-superintendent and such other physicians as he may designate in the performance of their professional duties with respect to patients treated by them, and not a public hospital, the facilities of which are accessible to all reputable physicians and their patients. Nor can it be claimed that its net income does not inure in whole or in part to the benefit of private individuals."

Peralta Hospital Emphasizes the Hospital's Human Side

By WILL G. CORLETT
Reed & Corlett, Architects, Oakland, Calif., and
R. G. BRODRICK, M.D.
Consultant, San Francisco

THERE is no architectural problem more interesting yet more exacting than the design of a hospital. Economy in construction, in operation and in mental and physical effort, and the conservation of labor and facilitation of supervision are essential.

Inasmuch as a hospital is a workshop for the reconstruction and repair of the human body, special arrangements and mechanical equipment necessary to produce these results must be provided and so placed that they will function in the most effective manner. Coordination between divisions of the hospital must be facilitated to permit the science of medicine to do its utmost toward the discovery, prevention and eradication of disease.

Physicians depend on the nursing, domestic and business administration. These are controlling factors in the dimensions of the various rooms, their grouping and the general circulation. Designing for a special use is here exemplified to the highest degree.

Granting this, we still should not consider the modern hospital as nothing more than a shelter provided for the surgeons', doctors' and nurses' work, as an aseptic workshop furnished with power and machinery, with the latest tools and the most perfect equipment and scientific aids to research and clinical efficiency. The hospital should be not merely a great mechanism but a silent agent in the art of healing. The architectural design of the exterior is not hemmed in by the practice of medicine or surgery, or by the accepted rules of hygiene. It should be inviting, not stern or bald.

A departure from the traditional stereotyped development that made a hospital a dreary place has been made in the Peralta Hospital, Oakland, Calif. The form of treatment makes it as attractive and inviting as its character and purpose

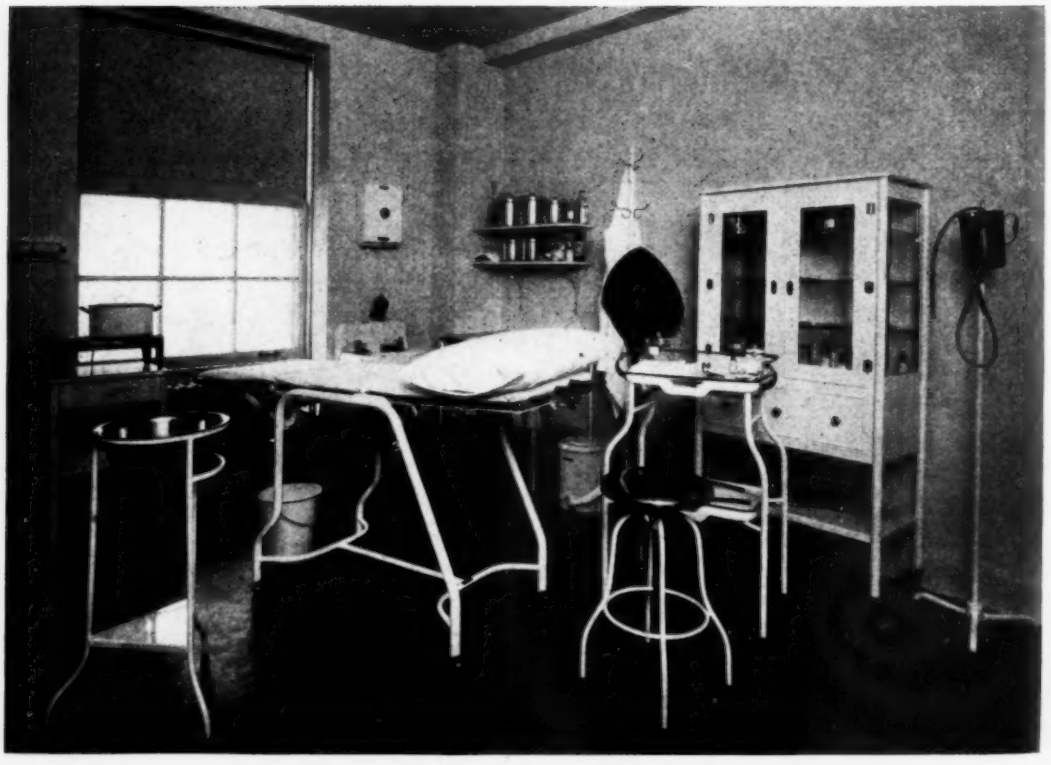
permit. It is not a grim, ugly structure representing the dire necessity of a community, but an important institutional building, with definite, attractive, and practical architectural design, providing suitable accommodation for various types of medical and surgical service.

The site selected was of sufficient size to give a large percentage of open ground area, proper orientation and outlook, with abundance of sunlight, cheerfulness, pleasant surroundings and agreeable views. The type of building plan permits the placing of patients' rooms to take full advantage of these site features.

Close cooperation between the hospital officials, the architects and the consulting specialists, and the choice of mechanical and service equipment and furnishings appropriate to meet the business and service problem involved, have resulted in correlating the phases of hospital activity to produce a structure entirely suited to its purpose.

A reduction of the number of

At the south end of the first floor is the x-ray department; above is shown a picture of the fluoroscopic room.



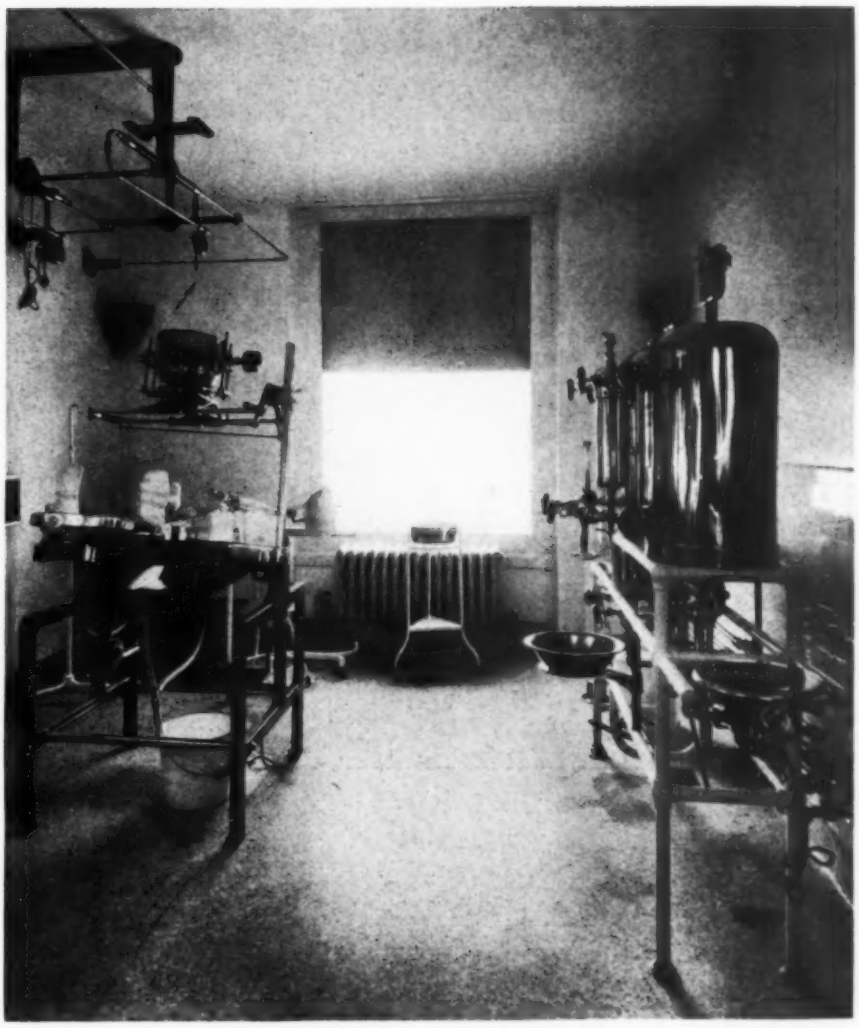
An examining and emergency treatment room is shown on the right. It is on the first floor near a patients' waiting room.

beds in wards and an increase in the number of single-bed rooms, are noticeable features. An increase in the number of auxiliaries to the rooms and wards and the introduction of many home conveniences are in accordance with developments of recent years. Planning of the rooms to preserve pleasing proportions and form and a consistent arrangement of furniture and appliances are evident throughout the plan.

Adequate fenestration is provided, giving large, well proportioned windows in every room, with fixtures to receive curtains, hangings and screens, and radiators in recesses below the windows and above the base.

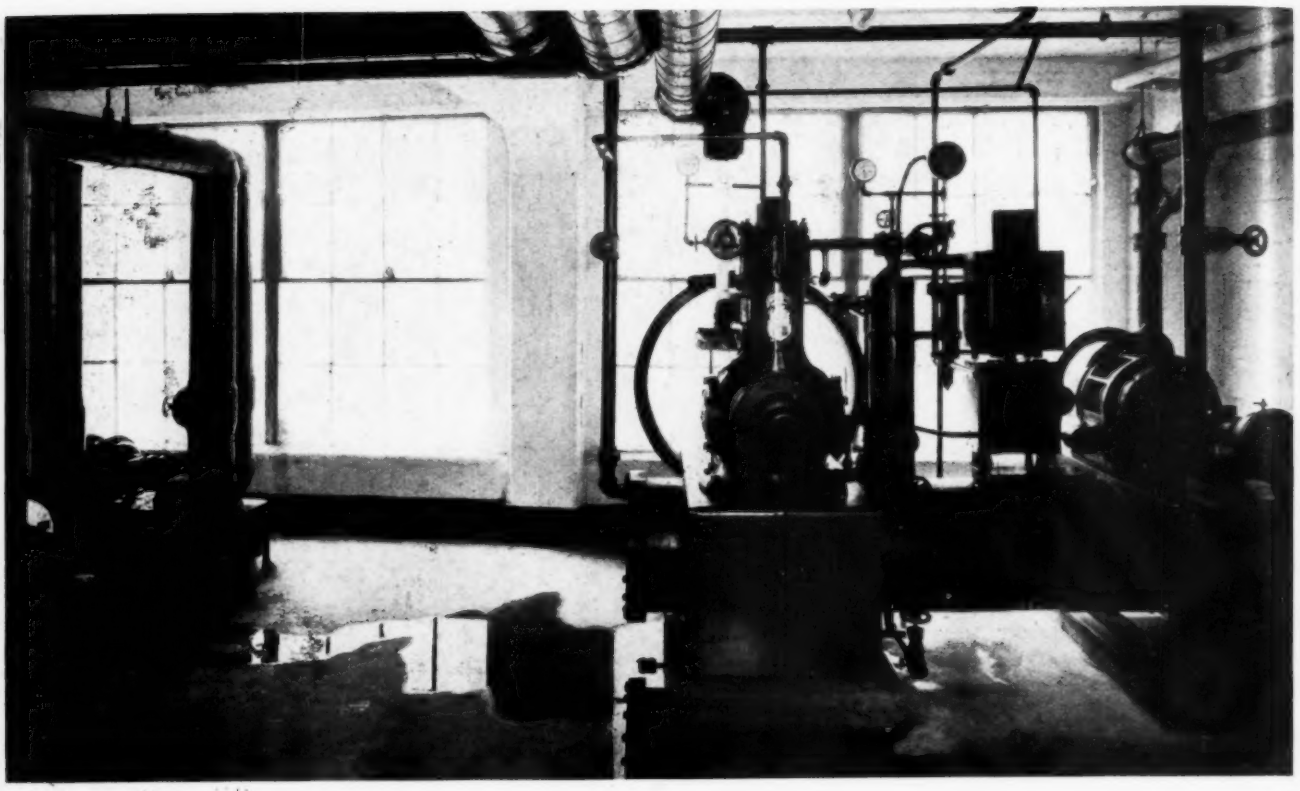
Judiciously selected color treatment in rooms, corridors and lobbies, in plaster, tile walls and floors, is a great aid in producing a pleasing appearance. White tile and plaster have been eliminated except in toilet rooms and similar places where white plumbing fixtures occur.

Provision is made for a large variety of treatments and exami-

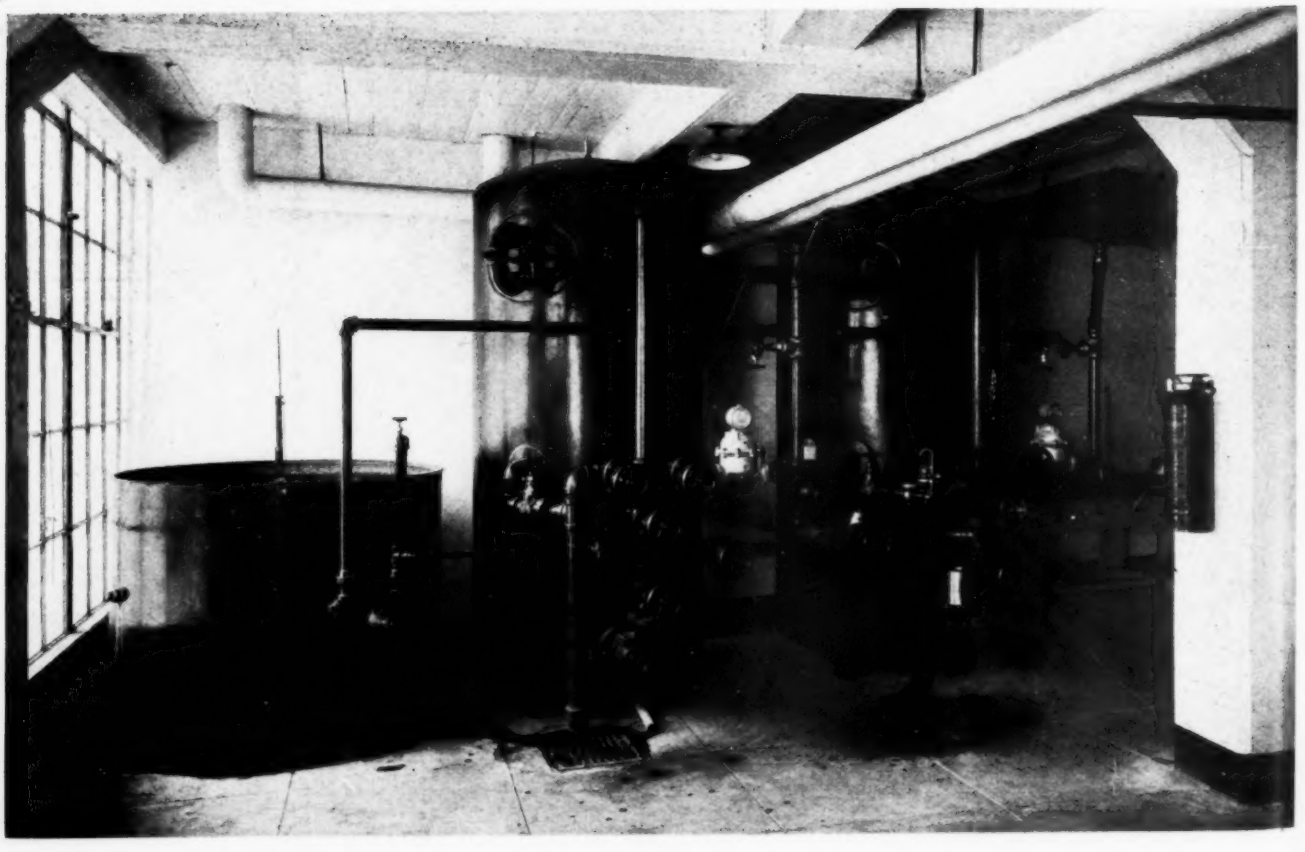


The x-ray department includes a cystoscopic room and deep therapy room, equipped completely and in accordance with modern ideas.

The seventh floor is the surgical floor. The south half is the maternity department. On the left is shown one of the delivery rooms.



Besides the several small electric refrigerators which are installed throughout the hospital, there is the main refrigerating plant shown above. Below are shown the water softeners.



nations of patients. Adequate and convenient arrangements for the nurses, the domestic services and the business administration have been carefully planned.

Communication between the hospital, and the power house and laundry building is by an underground tunnel, and the travel of patients, visitors and personnel and the reception of supplies are so arranged that there is no conflict or interference.

Adequate, conveniently equipped, quiet elevators, centrally located, serve the building, with dumb-waiter elevators for all food service and separate service elevators for the kitchen and the power house building.

The serious work of the hospital is masked as much as possible from those who are within its walls. Bodies, soiled linen and rubbish, are not transported through departmental corridors.

Modern systems of heating, lighting and ventilating have been installed and the mechanical equipment and radio outlets are of an up-to-date type.

The planning of the dietary department has been given particular care, and an effort has been made to reduce the travel of food, with a consequent minimum loss of heat.

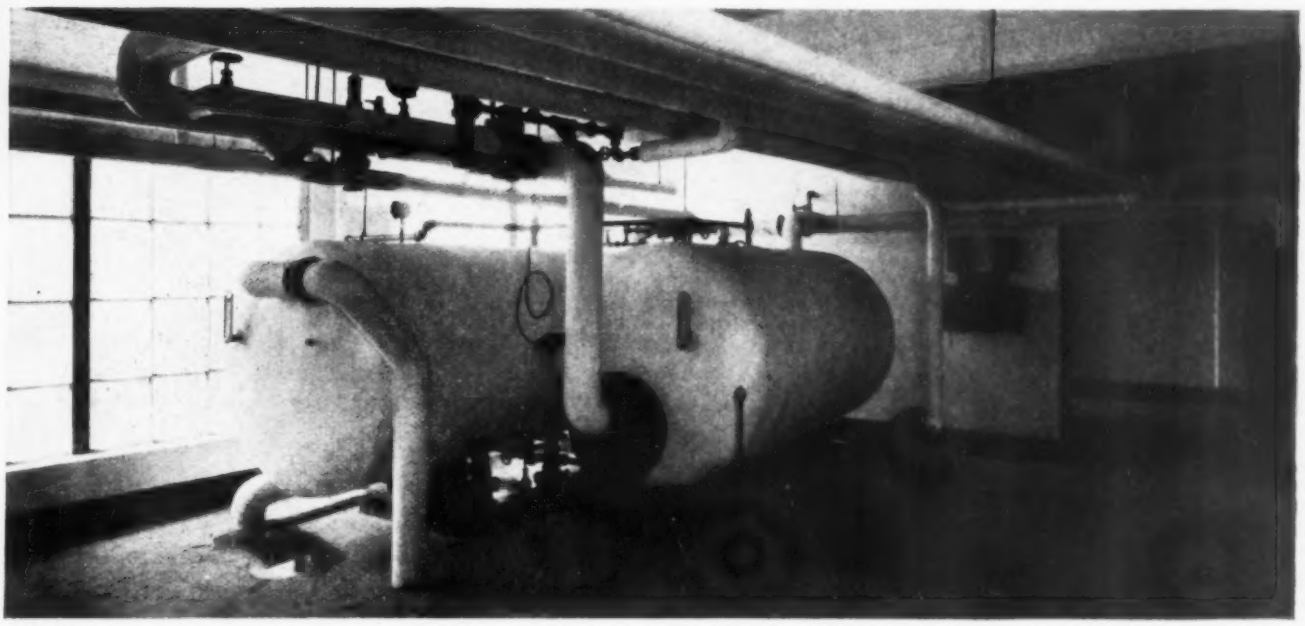
Particular attention has been given to the selection and use of attractive and practical furniture, floor coverings, draperies and fixtures.

The same care has been shown in the selection of the hospital bedding, dishes, trays and silverware, all adding to the pleasing and homelike character of the hospital.

Administrative organization and policies carry out the prevailing idea, and the patient and visitor are made conscious of this attitude of pleasant and comfortable service at all times.

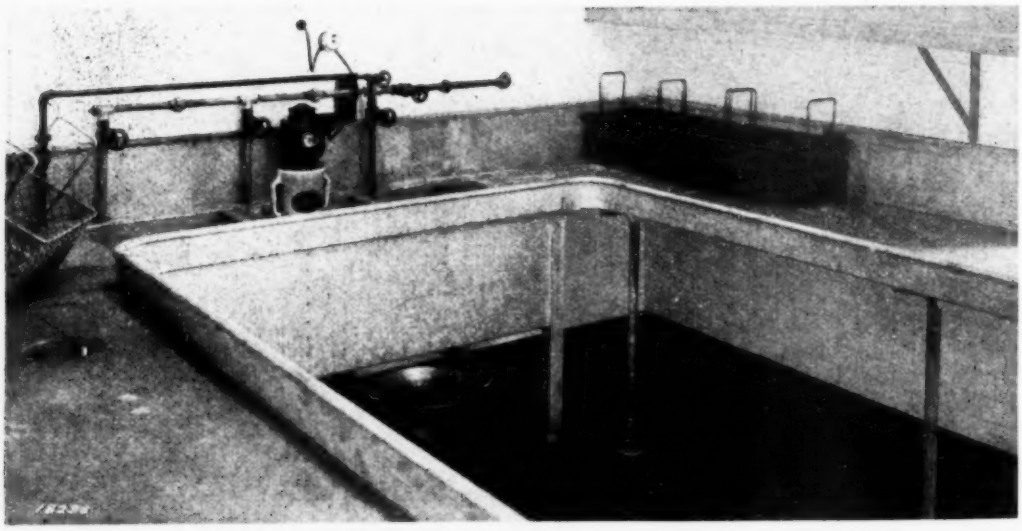
The hospital is situated on the top of a hill. The site was selected after a consideration of ten or eleven available sites, on the basis of general suitability for a hospital of this type. It is of sufficient size to insure privacy and of a general form and linear dimensions adaptable for a building with proper distribution of the areas. It has frontages on two streets, facilities for parking automobiles, and space for driveways, walks and planting. It permits the planning and placing of the building to maintain desirable exposures and orientation, with protection from encroachment on all sides.

The hospital is easily reached, lessening the danger to very ill patients or emergency cases. It is accessible to physicians, and to friends and relatives of the patients. Supply service is direct and prompt at either street frontage. It is approached from all directions by means of wide thoroughfares for automobiles and is within easy walking distance from main street car and bus lines.

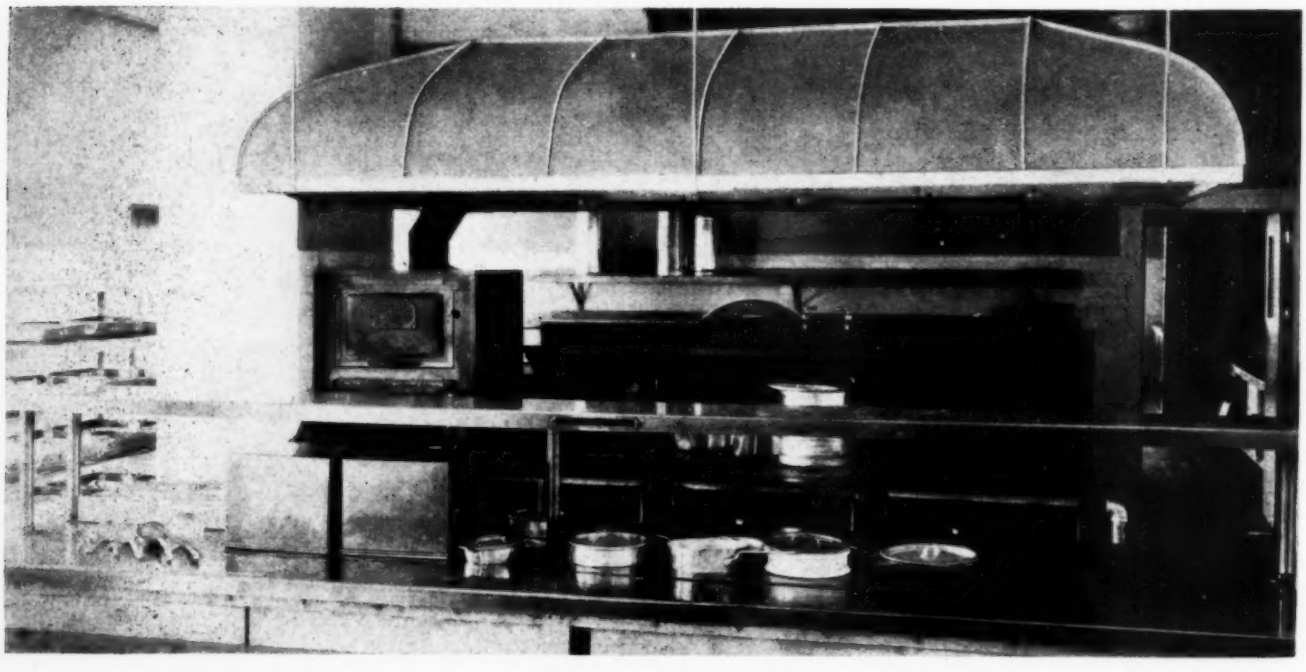


The two water heaters shown here provide hot water for the entire institution.

The topography of the site is extremely favorable. The natural elevation of the knoll on which it is situated permits a pleasant prospect from patients' rooms without objectionable features in the foreground, gives good natural drainage, and a level and adequate building platform above the front street grade, as well as a desirable lower grade on the rear street for the power house building. The site is in a quiet portion of the city, away from noisy railroads, heavy vehicular traffic,



The problem of serving three meals a day is made easier when modern equipment is used. Above is the main dining room, to the left, the dishwashing room and below, the main kitchen.



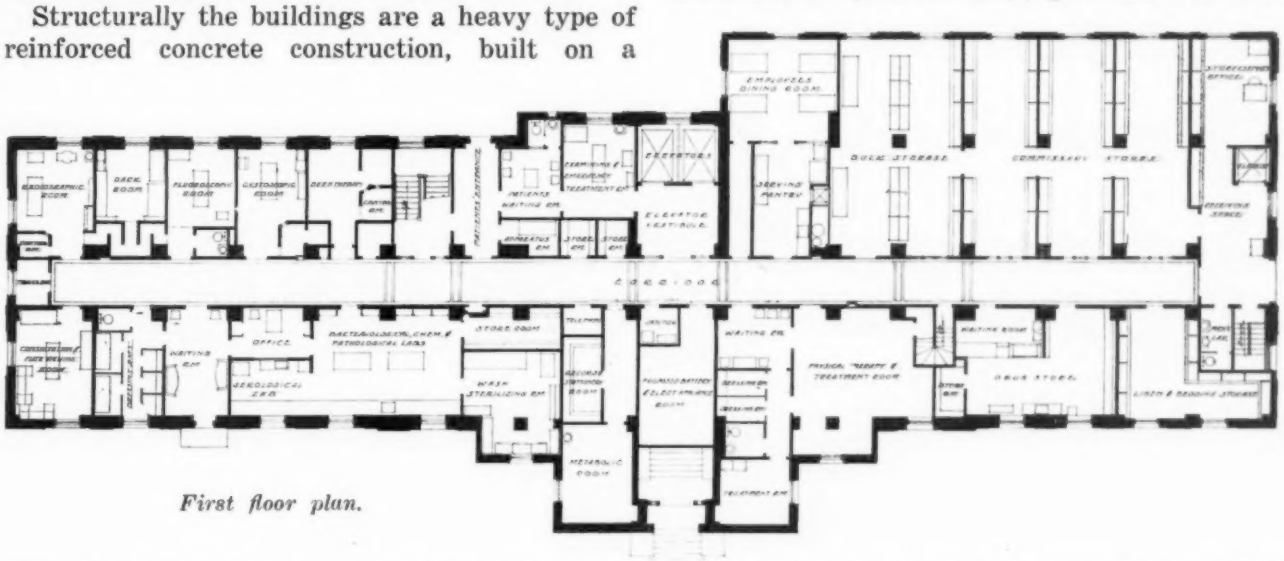
noisy factories, smoke and the dust of the streets, giving a general remoteness from disturbing influences.

Climatic conditions are favorable, the site being in a warm, equable belt and open to a maximum of sunlight and air throughout the year.

The main building is a seven-story and penthouse hospital building with a separate three-story power house connected to the main building by an underground tunnel.

The buildings exemplify in high degree important modern trends in hospital building. They are especially designed for safety under fire, earthquake or panic conditions. The safety of occupants under all conditions has been a paramount consideration in the minds of those responsible for the planning of the construction.

Structurally the buildings are a heavy type of reinforced concrete construction, built on a splendid foundation, in accordance with well recognized principles for the construction of a building to resist fire or earthquake shocks. The main building is uniform in design. Heavy reinforced concrete columns, girders and beams, thick floor slabs, roof slabs, walls and foundations give this unity. Above the ground the structure is designed in each story to resist horizontal forces acting in any direction, with such horizontal resistance properly distributed. The rectangular type plan with uniform weight on all sides of the center makes an ideal form for this type of construction.



First floor plan.

Modified Florentine Architecture

The building is an adaptation of Florentine architecture and Italian detail, simple, dignified but not too formal in its composition of masses, voids and solids, vertical quoins, horizontal belt courses, openings, plain ornament, modeled detail and cornices, crowned with tile roofs. A pleasing variety of color and warmth is given by the quoins, cornices, belt courses, and ornament being a brown sandstone color, the main building walls modified white, texture stucco, and the tile roofs variegated red and brown. The ensemble is attractive and restful, in combination with the brown walks and driveways, varied green shrubbery, lawns and flowering plants.

A two-story high projecting motif attractively marks the main entrance. Shutters in the top story with an overhanging cornice on the central motif and limited use of ornamental wrought iron grilles at the main entrance add to the homelike appearance.

In plan the building is a rectangular block plan type, with the long sides of the rectangle facing almost directly east and west, the south end facing Thirtieth Street, the main approach. The main entrance, on the east, gives access to the public and the visiting staff through a vestibule to the reception lobby, administration department, executive offices, corridor, elevators and stairs. A sheltered entrance with turn-around for the admission of patients, emergency cases, ambulance cases and out-patients is on the west. General supplies, equipment and drugs are received at a service entrance on the north, reached by a service drive and turn-around from the west driveway. This driveway gives access to the parking space for doctors' automobiles. A minor entrance on the east side in the south wing gives entrance and exit to the x-ray and laboratory departments. Supplies for the power plant, laundry, morgue and similar services are at the rear, so that these services are thereby screened from the main building and its occupants.

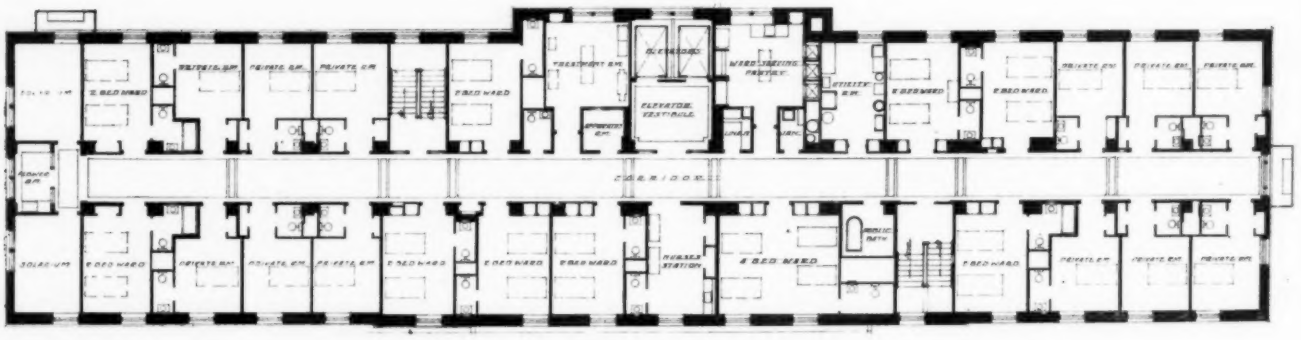
The first or ground floor, which is below the main or administrative floor, provides for the receiving of patients and emergency cases through a patients' entrance corridor, leading to a patients' waiting room, an examining and emergency treatment room with storerooms and

apparatus room, and with connection to the main elevator vestibule. Bulk storage space, commissary storage space, storekeeper's office, receiving space at the service entrance and elevator to the kitchen are provided here. Linen and bedding storage room, drug storage space, drug store and drug store lobby are provided on this floor. An employees' dining room, with serving pantry and dumb-waiter service from the main kitchen and access from the main corridor, is also on this floor.

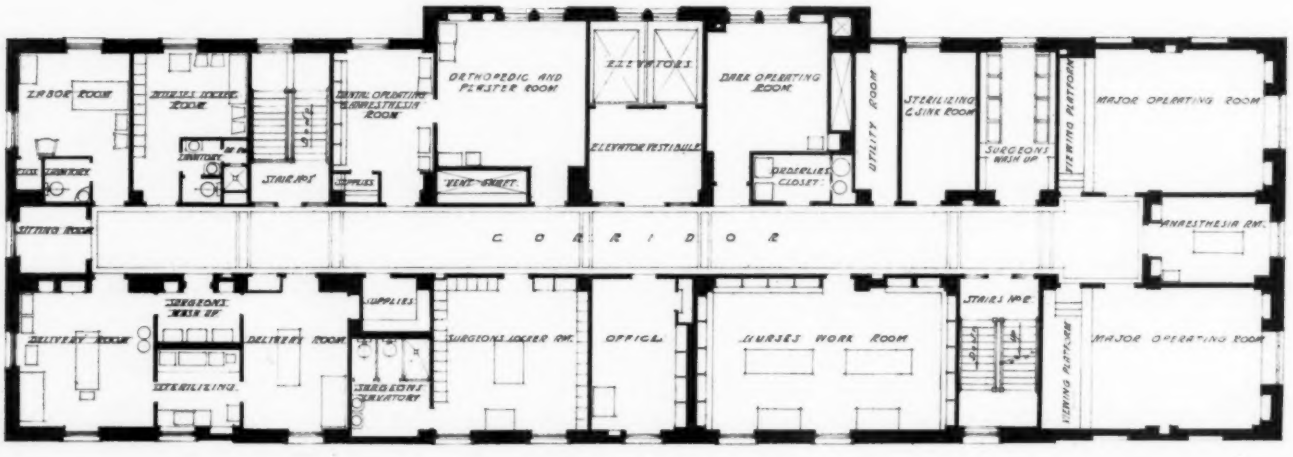
At the south end of this floor the x-ray department and laboratories are placed, with a common waiting room, direct exterior entrance and office. The x-ray department consists of consultation and plate viewing room, radiographic room, fluoroscopic room, cystoscopic room and deep therapy room, with a dark room and double maze entrance, and the necessary transformer rooms, control rooms, storerooms, dressing rooms and toilets.

The laboratory consists of a bacteriological, chemical and pathological laboratory, a serological labor room and storeroom. A physical therapy

Second floor plan.



Typical floor plan.



Seventh floor plan.

The private rooms vary in their color schemes, but the prevailing colors are light tan, rose and soft green.

treatment room with cubicle compartments, waiting room, dressing rooms and a second treatment room, a metabolic room near the laboratory, a battery and electrical appliance room and a janitors' closet are also provided on this floor.

This floor is at the ground level and the receiving entrance for supplies is at the north end in the rear on the level of the ground.

An underground tunnel is below this first floor level, connecting from the main building elevators and the bottom of the laundry and dust chutes on the line of the main corridor axis underneath the service yard to the laundry floor level of the power house building. An elevator and stair in the power house connect this level to the two power house floors below and the yard above. The tunnel also serves to bring steam mains, power and light wires and pipes from the power house to the main building.

The second or main floor is reached directly from the main entrance only, in the middle of the east front. This entrance leads from the main walks and driveways through an ornamental entrance vestibule and wide marble stairs to the main lobby. The main lobby is high ceilinged, daylighted through leaded glass windows and has an interesting architectural treatment of heavy beams and brackets. The floor is of rubber tile in pattern and color. The beams and ceiling are decorated with harmonious stencils in color. Comfortable and colorful decorative furniture, fixtures and hangings complete a delightful, commodious and restful lobby.

Off the main lobby are a waiting room with public telephone, a reception room connecting with the superintendent's office, the chief nurse's office, the cashier's office and the general office and telephone room. There are provided toilets for men and women, comfortable furnishings and attractive electric lighting fixtures. The lobby connects directly with the main corridor from which are reached the elevator vestibule, dining room, dietitian's office, kitchen, staff cloak room, bookkeeper's rooms, vault, patients' record room, conference room, board room and library with staff lavatory, a special nurses' locker room and lavatory; two double rooms for interns or visiting staff, with toilets and showers, and a resident physician's bedroom with bathroom. The conference room is wainscoted, equipped with book cases, trimmed in mahogany and furnished with decorative furniture. No patients' rooms are on this floor.

Particular care has been taken in the planning and administration for efficient operation of the dietary department. The serving of food to private patients, ward patients and hospital personnel is provided by a centralization of all preparatory service in the main kitchen on the second floor, near the center of activities, connected by service elevator with stores and the receiving room below. The dietitian's office and special diet kitchen adjoin the main kitchen with dumb-waiters between. The travel of food is reduced to a minimum. The food can be transported by means of dumb-waiters, and with a minimum loss of heat, directly to centrally located diet kitchens or serving pantries on each floor.

No food or soiled dishes are carried on main elevators. There is a separate vegetable room and butcher shop, with their separate refrigeration units and the main refrigeration unit off a kitchen service corridor. A separate bakery room is provided, a dishwashing room, a service pantry, a silver closet, facilities for ice cream making, service corridor to main dining room, cook's storeroom, main diet kitchen and dietitian's office.

The main dining room adjoins the kitchen and is tastefully and cheerfully decorated and furnished. Small table units are used. The main dining room is reached from the main corridor.

The third, fourth and fifth floors are exactly alike. Each floor has twelve private rooms, nine two-bed rooms and one four-bed ward. On each of these floors are two solariums with south, east and west exposure. Each solarium is equipped to accommodate two emergency beds, making a total of thirty-four beds per floor, plus four emergency beds, or thirty-eight per floor.

All patients' rooms have complete plumbing facilities, a lavatory and toilet for each room. A tub is in three of the rooms and one public bathroom is on each floor. There are also clothes closets in all rooms, a closet for each bed in all cases.

The service accessories on each floor consist of a central nurses' station with lavatory and toilet, closets, sink, desks and cabinets, placed in the exact center of the corridor, directly opposite the elevator vestibule entrance; a treatment room completely equipped; a utility room with work table, lavatory, refrigerator, linen chute, sterilizers, sink, slop sink, pan warmer, closet and drier; a ward serving pantry, into which the dumb-waiters from the kitchen open, with range, china closet, refrigerator and sink. A public lavatory and toilet, apparatus room, linen room, janitors' closet and flower room comprise the other service features.

Varied Color Treatment Is Pleasing

A distinctive feature of these patients' floors is the color treatment. The main corridors, stairs, elevator vestibules and visible rooms are uniformly treated, in a light tan color, stippled. Corridor trim, doors and base are hardwood in dark walnut color. The patients' rooms have a uniformly painted wood trim of light color, but the stippled painted walls and ceilings differ in different rooms, light tan, rose color and soft green being used. Rugs on the floors, overstuffed furniture, window curtains and other furniture differ in colors and patterns but all are in harmony with any of the three basic colors. The result is a marked variation in the rooms but no lack of harmony and no difficulty about changing curtains, furniture or coverings. A cheerful, homelike, habitable room, certainly unique in hospitals, is here obtainable.

A typical private room is about 12 feet by 12 feet 4 inches. The floor covering is linoleum. A large rug is used over the linoleum. Walls and ceilings are plaster with stippled washable wall paint finish.

The sixth floor is similar to the third, fourth and fifth floors but is arranged to be used as the maternity floor. Shower baths replace the tubs and a nursery with a capacity of eighteen bassinets replaces the four-bed ward and adjoins the nurses' station. Infant baths are provided.

Seventh Floor Devoted to Surgery

The seventh floor is the surgical floor. The north half of the floor contains two large major operating rooms, with an anesthesia room between and elevated viewing platforms for each operating room; a surgeons' wash-up room adjacent; a sterilizing and sink room, with adjacent utility room for sterilizers; orderlies' closet; soiled linen chute and rubbish chute; an operating room for minor operations; a large nurses' workroom; an office centrally located, corresponding to the position of the nurses' station on other floors directly opposite the elevator vestibule entrance. An orthopedic and plaster room; a dental operating and anesthesia room; a supply room and a surgeons' lavatory, with toilets and shower bath, complete the general surgery.

The major portion of the south half of the seventh floor is the maternity department, consisting of two completely equipped delivery rooms with sterilizing room and surgeons' wash-up room between; a labor room with lavatory and closet; a sitting room; and a nurses' locker room with lavatory, showers, dressing rooms and toilet. The surgical floor is planned for future enlargement.

The eighth floor level takes care of elevator machinery, dumb-waiter machinery, fans and other mechanical equipment.

The Peralta Hospital is prepared to give any type of service. No attempt is made to take care of persons who are unable to pay for service, as there are a number of hospitals in the city organized for such a purpose and doing it admirably.

The hospital has no set rules of conduct for the patients. The only restrictions are those placed by the doctor on the individual patient. If it is desired that some member of the family stay at the hospital, this can be arranged at any time.

Mutual Responsibilities of Trustees and Superintendent*

By CHARLES S. PITCHER
Superintendent, Presbyterian Hospital, Philadelphia

TO HAVE a well conducted hospital there must be groups of intensely interested men and women who care more for the patients of the hospital than they do for themselves. These groups, represented by a board of governors or trustees, must place a staff in charge of the hospital's daily affairs who will at all times make this ideal the controlling motive in the management and work of the institution.

The superintendent is usually more prone to think of the duties and responsibilities of the trustees than of his duty and responsibility to them.

We should not forget to boost and defend our trustees to others and to cheer and encourage them when they are downhearted in times of stress.

Trustees should interest themselves in broad progressive plans and should originate the ideals and policies, but the details of these broad plans and policies should be delegated to the chairmen of committees, to the executive committee and to the superintendent. A wise, experienced and diplomatic superintendent who has the confidence of his trustees may guide the general policy of the trustees to a considerable extent.

The relation of the superintendent to the trustees should be cordial, there should be mutual respect and admiration for each other's work.

The superintendent is the representative of the trustees, and the authority which he exercises is that of an agent to whom certain powers have been given. When trustees and superintendents recognize this relationship of principal and agent, it promotes harmonious and cordial feelings.

For years, at meetings of hospital, medical and other associations allied to hospitals, and in private, I have heard trustees, superintendents and others maligned. I have little sympathy with this practice.

Few of us are free from inhibitions that may at times warp our judgment and cause us to make unwise decisions. However, nothing is as bad as its opponents would lead one to believe; nothing so good as its proponents state that it is. Shaikh Sadi, a Persian philosopher and poet who was born in Shiraz, A.D. 1194, and died in the same place 120 years later, gives this advice: "Reveal not every secret you have to a friend, for how can you tell but that friend may hereafter become an enemy. And bring not all the mischief you are able to do upon an enemy, for he may one day become your friend."

The board of trustees should be at all times fully informed of the progress and character of the work of the hospital, and should focus its attention and thought upon the vital matters of policy and performance. The superintendent, as the representative of the board, occupies a strategic position for securing information and should inform the board of matters that ought to be brought to its attention. If the board, which is responsible for the proper operation of the hospi-

Service Ideals

THE objective of all hospitals should be the best service possible to the patient and to obtain this end there must be groups of men and women actively interested in its affairs, who care more for the patients of the hospital than they do for themselves. The trustees and resident personnel must be actuated by this same ideal which, in the last analysis, is service to the patients and subordination of personal interest for the good of the hospital and the patients undergoing treatment within its walls.

To achieve this, the trustees must have high devotion to duty. The relations between the trustees and the superintendent should be cordial and each should have confidence in the other and admiration for the other's work and for their coworkers. The paramount interest of all should be the restoration of the patients to health.

*Read before the New Jersey Hospital Association, Atlantic City, N. J., May, 1928.

tal, does not know in some detail what is going on, it is handicapped.

In outlining a type of committee responsibility through which the superintendent is best able to get advice and helpful suggestions from the board of trustees, on problems of management, finance and other important matters, I am fully aware that there is a marked difference of opinion among hospital boards and hospital executives as to which is the best type of committee organization.

Generally speaking, we are liable to assume that the method of organization at our hospital is the best. After an experience gained through having been associated at different times with hospitals having boards of trustees, visitors or managers, consisting of seven, eleven, fifteen and thirty members, I am of the opinion that the larger boards are the best plan of organization.

State Institutions Have Small Boards

State institutions usually have small boards of trustees of from seven to eleven members, appointed by the governor with the advice and consent of the senate, or on nomination of a board appointed by the governor.

When there is a small board of trustees it usually functions more as an executive committee than as a board of trustees. Some of these boards have a rotating committee of two members who serve two months each, one member of the committee changing each month. Some general hospitals employ this same plan.

It seems advisable for church and community hospitals to have large boards of trustees, to make it possible for groups of contributors to have representation on the boards of trustees. With a board of trustees of thirty members, thirty different groups of contributors have representation, and through the trustees the needs and aims of the hospital are more adequately presented to the public than when there is but a small number.

Also, with a larger board, a hospital is not so liable to be faced with having the most active members of the board of trustees become incapacitated by illness or age, making it necessary for them to relinquish their duties to successors who have not had training as members of the board and have not become familiar with the needs of the hospital over a period of years through membership in committees. Church and community hospitals having small boards of trustees face this difficulty.

The hospital is fortunate which has a board of trustees familiar with its policies and aims. A large board of trustees, some claim, may be unwieldy, but on the other hand its policies are usually well considered by committees before presentation to the board, and there are board members present at meetings who are able to give detailed information of projects when they are presented to the entire board.

I would suggest the following organization for a large board of trustees of twenty-four or thirty members, representing either a church or a community hospital which serves a large group of churches or a number of communities:

1. An executive committee, consisting of the president of the board of trustees, the secretary, and the chairmen of the standing committees.

2. The following standing committees: (a) financial, having charge of the securing of funds, investment and general financial plan of the hospital; (b) audit and supplies, having supervision of the purchase, and the auditing of the accounts; (c) household, having charge of the training school, advising and assisting the superintendent in the appointment and discipline of the personnel; (d) property, having charge of the construction of new buildings and the repair and upkeep of the hospital property; (e) medical staff, having charge of the appointments of the medical staff; some hospitals do not have such a committee; its duties, however, are performed by the executive committee; (f) religious work—church hospitals have a committee on religious work; (g) social service—hospitals having a social service department should have a committee on social service, which may also function as a committee on admission.

Select Committee Members With Care

These committees, exclusive of the executive committee, usually consist of five members, some members of the board of trustees serving on more than one committee. The chairman and members of the committees are selected on account of their knowledge of the matters that will naturally be brought to the attention of their committees.

A hospital with committees organized under this plan is more liable to have big objectives, which are well thought out and carefully planned, than a hospital with a small rotating committee, one member of which changes every month, for there is more continuity of effort. The policies are more fixed and plans for improvement are more liable to be realized.

A new superintendent entering upon his duties at a hospital organized under the committee plan, has a group of counselors and guides who are thoroughly familiar with the subjects that are most liable to harass him—financial, audit and supplies, property, medical staff and social service. The chairman of each of these committees is familiar with the various matters that have been

placed in his charge, and the superintendent may go to these chairmen for advice and guidance. After the superintendent has become familiar with the different needs and policies of the hospital, he may be of great assistance to these different committees through his technical knowledge, and he may act as technical adviser or assistant to the committees.

It is always best for the superintendent to assume that he is assisting the committees rather than that he is directing their activities. This attitude of mind on the part of the superintendent is conducive to harmonious relations with the board of trustees.

Many superintendents feel that the superintendent should be present at all board meetings, and should be an ex officio member, with the president of the board of trustees, of all the committees. It is advisable for the president of the board of trustees to be an ex officio member of all committees, but it is not at all necessary for the superintendent to be an ex officio member or for him to be present at all board meetings. With a large board of trustees and a capable chairman of each committee, it is probably better for the superintendent not to be present at the meetings of the board of trustees, unless he is invited to be present for some special purpose.

Superintendent Should Not Attend Meetings

There is great difference of opinion on this matter. In my opinion there is more liability for friction to develop between members of the board of trustees and the superintendent if he is present at board meetings. The board of trustees should feel at liberty to discuss and analyze any procedure of the hospital at its meetings, which can more readily be done if the superintendent is not present.

On the other hand, it is advisable for the superintendent to be present at the meetings of committees, when he can be of assistance to committees and present matters that he wishes to bring to their attention. After these matters have been discussed and decided in committees, there is no reason for his being present at the board meetings to discuss further and present the matters, for this naturally becomes the duty of the chairman of the committees.

When there is a small board of trustees, the conditions are different, for a small board usually functions as a committee of the whole, or similar to a standing committee of a large board. There is no one to fulfill the duties that the chairman of the committees in a meeting of a large board of trustees should be responsible for. With such an organization there is no one to present detailed matters to the board of trustees. It is therefore highly desirable for the superintendent to be present, for he, in a measure, takes the place of the committee chairmen in presenting matters in detail, matters that he may wish to bring to the attention of the board, and he can render the same service to the small board of trustees that he does to a standing committee of a large board.

Staff Organization Essential to Hospital's Success

Every effort is being made to bring into the life of the hospital staffs better and more efficient methods of organization and a higher and more scientific spirit of cooperation, so that they may function both individually and collectively in the best possible manner, according to a statement by Dr. Max Danzis, chief of staff, Newark Beth Israel Hospital, Newark, N. J.

The medical staff is the backbone and most potent factor of any hospital, and unless its members are instilled with the proper spirit of cooperation and unselfish devotion to the task of preservation of life and safeguarding of public health, to which medical men pledge themselves, they will soon bring ruin to the hospital.

Coordination of the various activities of the medical staff is necessary in order to give the patient the kind of medical service that is based on the modern scientific and clinical methods.

The fundamental principle for the operation of any successful enterprise in industrial or commercial life is efficient organization. This applies to hospitals as well as to any other business. The fundamental principle underlying such an operation presents the main, and possibly the only difference. Where materialism often governs commercial life, pure idealism is the governing and guiding principle of medical staff organization.

Apparently there is as yet no standard form of medical staff organization that can be applied to every hospital. Most institutions develop their organization in an evolutionary manner during the course of their activity. Thus certain forms that are found advantageous and easily adaptable to a definite group may fail entirely in their purpose when tried in another institution.

Every well organized medical staff should consist of an active staff, a consulting staff and, whenever possible, an associate or courtesy staff. The duty of the active staff is to increase the professional efficiency of the institution. The committees and officers of the staff should be elected or appointed according to their individual bent.

The members of the medical staff of a hospital must not look upon each other as competitors. They must be tolerant of each other's views, and must remember that they are all working for the good of the same cause.

In choosing technicians for the laboratories, care must be taken they are efficient and well qualified for the positions. If the laboratory staff is not reliable, there might as well be no laboratory at all, for the staff members will place no confidence in them, and cooperation will be impossible.

The consulting staff of a hospital should also be of the highest ethical and professional standing in the community. They should be men with whom the regular staff members will willingly consult, and their attitude toward the institution should be one of friendship and sympathy. There must also be a spirit of understanding and sympathy between the board of directors and the staff.

War Time Libraries Now Bring Joy to Civilian Patients

By INEZ M. BAYLIS
Chairman, Library Committee of McGill Alumnae Society, Montreal

THE hospital library work done by the McGill Alumnae Society, Montreal, although organized during the World War and considered of great importance then, is being continued in time of peace and has advanced far beyond our expectations.

The society had been told of libraries enjoyed by these men while in the hospitals in England. After some thought it was decided that in every military hospital opened in Montreal we should establish, finance and conduct with a voluntary staff, a library. A convenor of a library committee was elected by the society and a committee chosen by her. Any other members of the society able to assist gladly volunteered their services.

Nine military hospitals, some large, some small, have been established in this district at various times since 1917, in all of which we have had libraries. In 1919 we had under our control and were paying all expenses of six of these libraries.

The money to finance this work has been raised by the McGill Alumnae Society in different ways, chiefly through lectures by persons of renown or through dramas presented by members of the society. In the past eleven years nearly $4,000 has been raised to buy books, magazines and supplies, and has been dispensed by the library committee.

When the first military hospital was opened in

The library of the Royal Victoria Hospital, Montreal.

March, 1917, a bright room was given us for a library which was comfortably furnished by friends, with leather covered easy chairs, a sofa, a large table and a desk. The shelves were supplied by the government. On these shelves we placed, after many days devoted to cataloging, 200 books, either purchased or donated by friends, as well as seven traveling libraries loaned by McGill University and two magazines we had subscribed for.

But this was only a beginning. The members of the committee realized that reading matter was something the soldier patients could not be without. Books not on the shelves were asked for daily, some being books the boys had heard of in England or had begun reading on the steamer. So more books had to be added to the shelves. Before the close of 1917, 800 books were in this library. During the three and a half years this hospital was used by returned soldiers, a voluntary worker was in the library each morning to lend books to patients able to come and choose them. On two afternoons of each week books were taken to patients in bed, on wooden trays made for the purpose. Writing material was also supplied to patients and stamps were sold at the librarian's desk.

The following month a second hospital was opened and a library of 600 books was immediately established, with voluntary workers present twice a week to distribute books, all of which were signed for by borrowers.

Modeled After McGill Library

Some of the members of the library committee were librarians at McGill University. To those of the committee and voluntary staff who had not then taken any course at the library school or even done much, if any, work in libraries, lectures were given, so that all books in our hospital libraries were catalogued in a modified form of the system used at McGill University Library. The necessary information was entered in the accession book and two cards were made, one for the pocket pasted in the back of the book and the other for the catalogue trays. Books were classified simply as fiction, nonfiction or linguistic. This has been the system used in all our hospital libraries, with here and there slight changes made to meet difficulties or advancement in work.

Before the first year of work had passed, we had established in the wards given over to the military authorities by two large civilian hospitals, libraries of about 400 books, with biweekly visits of voluntary librarians. The need of a library in every hospital was greatly impressed upon the workers in these libraries by the disappointment of civilian patients who were denied the much desired reading matter. This fact later influenced our decision to continue the library work for the benefit of civilian patients.

To accommodate soldiers who had passed months or even years of suffering as the result of terrible experiences in France, and for whom there was little hope of recovery, four small branch hospitals were opened and small libraries established by us in these. Books in each of these hospitals were given out at any time by the matron, but a weekly visit was made by a member of the committee to see that books were the kind wanted and also that magazines subscribed for were in circulation.

Room Furnished by Library Committee

The library in which all our work for soldier patients is now concentrated was established in January, 1919, in the hospital at Ste. Anne de Bellevue, about twenty miles from Montreal. Books were at first placed in cupboards in the dining room but within a short time a large bright room was made ready for the library. This room was furnished by the library committee, the hospital authorities supplying, as in other places, the necessary shelves.

In this library, now, at any hour of the day may be seen many soldier patients, some choosing their reading matter from the 5,236 books on the shelves, others seated around a large table on which are, in regular covers, the latest number of the fifteen magazines for which we subscribe. The librarian is at her desk from nine to five o'clock to help the men choose their books or to have a cheery chat with them, the walk from the ward to the library being for many of the soldier patients their only excitement for the day. Doctors, nurses, officials of the hospital are continually coming in for their books, since members of the staff have always had the use of this library.

Books Distributed Twice Weekly

Of the 415 patients at present in this hospital many are confined to bed. To these patients books are taken twice a week. To some of the more serious mental cases English illustrated magazines are taken.

In the two wards occupied by tuberculous patients, whom we supplied with books and magazines when they were in the Ste. Agathe Sanatorium, are placed duplicate volumes from the main library or books specially bought for these soldier patients. Not only is fiction distributed but also vocational literature that will be helpful to the patients in earning a livelihood when they are discharged. About a thousand books are kept

here but there is no signing for books borrowed. On this account, and because of the wards for serious mental cases, the circulation in this hospital library is not what it used to be, which was an average of 110 books daily. Last year, but 6,615 books were given out.

The books wanted by the soldier patients are as a rule either adventure, western or detective stories. Every new book by Zane Grey, Raine, Oppenheim and Packard has to be bought and many old worn-out copies have to be replaced. Books of travel and biographies, especially with a touch of adventure, are being read more than ever. Recently the third copy of "With Lawrence in Arabia" had to be put on the shelves, to be a rival in popularity with "Count Luckner," Ludwig's "Napoleon," "Disraeli," by Maurois, the works of Ossendowski and many others. These men are often patients in this hospital for a lengthy period so books giving information on work as well as play are bought.

Librarian Paid by Government

When establishing the library here the committee realized the impossibility of volunteer workers' going out to Ste. Anne's each day and arrangements were made for a librarian to be paid by the government at Ottawa. We have been most fortunate in having the same person in charge since 1919. Although the librarian is paid by the government, the library is owned and financed by the McGill Alumnae Society and managed by the library committee, which receives an annual grant from the society for books, magazines and supplies.

Our many attempts to obtain an annual grant from the government have been unsuccessful although they have given us a bonus more than once. When threats have been made to close the library, the upheavals among the patients, as well as the staff, have made us decide to raise the necessary money to continue the work. A letter received a short time ago from the superintendent made us determined to carry on our "war" work. He said: "Words cannot express the gratitude of the patients and staff for the work you are carrying on. I personally derive much benefit from a short visit to the library and also from the excellent reading matter that one can obtain there. The atmosphere created through the librarian is most beneficial to the patients and staff of the institution and it is our sincere hope that the McGill alumnae will carry on for many years to come."

The other library being managed by us at present is in a civilian hospital. In October, 1920, the first military hospital was closed. Here we had a library of 1,500 books, well catalogued and in good condition. The committee decided that it should be given to some institution where a room large enough was available, where a stated sum of money would be guaranteed by the hospital authorities to be spent on new books each year and where it would benefit the greatest number of people. After many interviews and much discussion it was decided that the library should be given to the Royal Victoria Hospital.

Volunteer Staff Conducts Library

When donating the library we made the offer of a volunteer staff to conduct the work for two months, the idea being to demonstrate our system to a paid librarian whom it was thought the hospital authorities would want. But we are still carrying on the work and have now entered the eighth year. One of the last wishes expressed by the late superintendent was that the library would always be conducted by an organized voluntary staff. He considered that different workers coming each day of the week came with fresh enthusiasm and cheer, which was radiated to the patients. This same feeling has often been shown by patients. "I consider the worker from your library who visits me twice a week my ray of sunshine and hope," was the remark of one patient upon making a donation to the library recently.

Many times as the books are taken to the bedside one of two remarks is heard: "I can't afford it," is met by the answer: "There is no charge for borrowing these books." "I'm too sick to read," is met by Oppenheim, Zane Grey or Packard for a man, and Montgomery or Dell for a woman. In 90 per cent of the cases a book is signed for and left by the librarian. When the other visit is made that week nearly always another book is wanted, perhaps two. The fact that the same workers visit the same wards each week for the entire year makes it possible for cases to be studied and any advancement in the standard or the amount of reading of the patients noted.

Schedule Followed

In September a regular schedule is made and two persons are made responsible for each day of the week in the main library, and two for Tuesday and Friday in the branch library opened in the new pavilion, the maternity and women's clinics of the hospital, in November, 1928. On Monday and Thursday all wards of the medical wing are visited, on Tuesday and Friday, the surgical and on Wednesday and Saturday, the Ross Pavilion for private patients.

If any worker is not able to be on duty on her

day she is expected to make arrangements for a substitute. Besides the visiting of wards on their set days, twice a month two workers must be in the library looking over the books on the shelves. I devote from four to five hours daily to the supervising of all work, interviewing of officials, buying of books and other duties.

Our staff of seventeen regular volunteer workers and four or five substitutes is not limited to graduates of McGill University as it was when the work was organized. Many are university graduates and all are well educated, but the important point considered when workers are being selected is whether they are interested in books as well as in people, especially those who are ill.

In making the schedule, great care is taken to place together two persons who are congenial, because it is not altogether knowledge but cooperation that brings forth quality as well as quantity of work.

The library is considered a regular department of this hospital and the volunteer workers are members of the staff. I had been told this many times by officials, doctors and nurses but the fact was impressed upon me this Fall when I met with an accident. X-rays were taken at the hospital, and everything possible was done for me. After my recovery a month later, I went to the main office to pay the bill. The person in charge said I owed nothing. I looked at him in amazement saying, "But I was not a public patient." "No," he said, "but you are one of the staff."

Paid Librarian Employed in Summer

In order to allow the members of the committee and the volunteer workers to enjoy a holiday and also to relieve the doctors and nurses as well as the patients of any fear of the library's being closed for even a day, we have had a paid worker during the months of July, August and half of September for the past two years. The choosing of this temporary librarian as well as the decision as to the salary to be paid is left entirely to the library committee of the McGill Alumnae Society. For the first year we raised the money but now the hospital officials give us the $200 with which the treasurer of the library committee pays our librarian for the summer.

To take the books from the library to the wards we have a wagon that holds about 150 books, as well as magazines. A box is on top for the cards signed by borrowers. When the two workers arrive each morning at ten o'clock the doors of the shelves are unlocked and books to meet all demands placed on the wagon. From the 3,219 books at present on the shelves we strive to give the right book to the right person. More than half of these books are fiction. All standard works are included and we have hundreds of books for boys and girls. We have a well filled large cupboard for nonfiction and books in eleven foreign languages. Montreal is a city through which many immigrants pass and these foreign books are used to a great extent.

Recently a nurse in charge of one of the men's wards came into the library and asked me to make a special visit to a young Polish boy who had been brought into the hospital that night after trying to commit suicide. The smiles and gratitude expressed not only by the boy but also by the guard policeman seated beside his bed when I offered him books in his native language were for me a far greater reward than money for the work done.

Library Also Serves Staff

The wagon was taken every day in 1927, except Christmas, New Year's Day and Sundays, to some of the 650 beds. Only patients are allowed to borrow books from the wagon. Others must get them directly from the library, a large, bright room in the central part of the building. For others than patients a borrower's card, with name, outside address and position in hospital is kept on file and on it are registered all books borrowed. Books loaned to these persons may be kept fourteen days, but for them there is a fine of two cents a day for overdue books. During the past year more than twenty dollars was collected for fines. This money was spent on new books.

I must say in passing that we do have some trouble with doctors and nurses. I know from interviews with librarians that this is universal. But this difficulty is being gradually overcome through the cooperation of all members of the hospital staff.

How Patients Return Books

In our circulation last year of 23,114 books only 137 were lost. Of great help in reducing the number of lost or overdue books are the boxes for returned books placed in every ward of the hospital as well as in the library. These boxes have the appearance of tables but in them is a chute into which books may be dropped. These can be unlocked only by members of the volunteer library staff. At the back of the chute is a spring covering to prevent books from being removed. The patient when leaving the hospital has a designated place to deposit a library book and thus the difficulty of passing of books through many hands before being returned to the library has been met.

We realize the opportunities given us daily in these hospital libraries, not only to take the pa-

tient's thoughts from suffering and trouble but in many cases where the patient has never before had time or opportunity to read, the road to the love of good literature may be opened. For this reason during the past year the books for boys and girls have received special attention. Many books have been discarded and the bonus of fifty dollars given by the McGill Alumnae Society to the Royal Victoria Hospital, was spent on new books for children so that all books now on the shelves are approved of by the children's section of the American Library Association. We do spend more than the $300 granted us annually by the hospitals for books. In the past year 629 books were added to the shelves which could not have been added except for the many donations of money and books.

The nonfiction, which is being read more and more every day, is at present being classified and a list of books to be bought is being carefully prepared by members of the committee. In many cases duplicate copies will be bought. The committee is considering adding some of the "Reading With a Purpose" series to these shelves.

Volunteer Workers Report on Books

The best way to induce a person to read a book is to tell him how much you have enjoyed it yourself. You may offer him ten books but if the librarian has read one of them that one is nearly always the book borrowed. For this reason we plan soon to have a monthly meeting of the volunteer workers in the hospital libraries, when each person will report upon a book of the higher type of literature she has read during the month. In this way all the workers will become familiar with some of the splendid books being published and will then persuade the persons in the hospital to share the joy of reading them.

The fact that a library in the hospital is helping not only patients but also doctors and nurses is impressed upon us daily. When a doctor was asked the other day if the giving out of books in the ward would disturb his examination of some patient he answered, "I would willingly retire in order to allow that wagon of joy to enter the ward."

One of the heads of the training school for nurses in expressing her feelings towards the library recently said that the happy and restful condition of the patients who were reading interesting books, was noticed each day when the tour of the wards was made, but more important to her was the changed condition of the nurses when coming off duty. Not being tired and discouraged, they were able to absorb to a greater advantage the lectures given.

London Models Physical Treatment Clinic Along German Lines

What appears to be a departure from the usual method of treating incipient, subacute and chronic diseases, particularly rheumatic diseases, is to be tried in a new clinic for physical treatment in London, according to the *Prince Alfred Hospital Gazette*. The new clinic is to be conducted with the cooperation of the voluntary hospitals and the British spas, and is to be modeled along the lines of clinics already existing in Germany.

According to statistics 370,000 persons in Great Britain yearly seek relief for rheumatic diseases under the national health insurance act, and many thousands of these persons are in London. The new clinic will attempt by a systematic combined use of physical remedies on a large scale to treat subacute and chronic forms of rheumatism and to prevent the development of mechanical disabilities; to alleviate conditions that cannot be cured and to restore to as great an extent as possible the patient's working capacity; to carry on systematic investigations.

The treatment planned will include two or more of the following methods applied at each visit, which will be made twice or three times weekly over a two to four-week period:

Heat and cold and movement, which includes water, vapor and hot air, locally and generally applied; manipulation and exercises, alone or in combination with heat, by the hand or by douches or whirling water; radiation, such as heat, light and invisible rays—the ultraviolet or infra-red—from arc or mercury vapor or other lamps; electricity—constant current to resolve exudation and promote nutrition, interrupted current to cause movement of the muscle fibers, and high-frequency current to raise the temperature of deep seated parts.

Brief, Enthusiastic Drive Raises $176,000 for Hospital

A financial campaign to free the Benedictine Hospital, Kingston, N. Y., from debt, which had been brought on by the wide range of its voluntary service, resulted in the raising of more than $176,000 in a short, enthusiastic drive in Kingston and Ulster County. The amount raised was $16,000 more than was needed to clear the hospital from debt, and it is a noteworthy fact that it was the number of small contributions, ranging from $10 to $100, that made the campaign a success.

The leading clergymen of Kingston, Protestant and Jewish as well as Catholic, accepted places on the sponsoring committee and were active throughout the campaign which was conducted by the Very Rev. Joseph B. Scully, pastor of St. Mary's Parish, and president of the hospital, and the Hon. Philip Elting, Collector of the Port of New York, and an eminent citizen of Ulster County.

The actual canvassing was done by an army of 650 workers and during the drive not one dollar of the charity money was spent for luncheons and dinners or other get-together affairs for the workers.

The only subscription of more than $2,500 was one for $10,000 from His Eminence Cardinal Hayes, New York, who sent it as a direct tribute to the splendid work the Benedictine Hospital is doing in Kingston and Ulster County.

Minimizing the Fire Hazards of X-Ray Films

By R. D. HOBBS
Western Actuarial Bureau, Chicago

THE increasing use of x-ray films in hospitals has introduced a fire hazard that is more or less recognized, although in many instances little serious thought has been given to the necessity for safeguarding the handling and storage of films so as to prevent a fire endangering life and property.

The fire last Spring in the Memorial Hospital, Albany, N. Y., forcibly illustrates the necessity for hospital authorities giving serious consideration to the manner in which x-ray films are handled. The following description of this fire is taken from the July, 1928, *Quarterly of the National Fire Protection Association:*

"On Saturday, March 17, 1928, at about 4:30 p.m., a fire was discovered in the Memorial Hospital, Albany, N. Y. It occurred in a small room on the first floor used for the storage of films and x-ray equipment. In this room, on wooden shelves around both sides and above the entrance, were stored exposed films packed in ordinary cardboard boxes.

"The cause of the fire is undetermined, although a thorough investigation has been made by several authorities. No one, according to the best information available, had visited the room within half an hour of the time of the discovery of the fire, and the last employee to visit the room declares emphatically that he was not smoking and that everything appeared to be in order when he left.

Fumes Permeate the Building

"Efforts were made by the employees to fight the fire but they were unsuccessful, and fumes from the burning films forced their retreat. In leaving the fire the employees in their haste and excitement failed to close the doors between the corridor leading from the film room and the main hallway, in which are the open stairs leading directly to the upper floors. This allowed the smoke and fumes to permeate the building.

"By this time the nurses had removed the patients on the affected floors, by the fire escape on the south end of the building and by the elevator, which was kept in operation practically throughout the period of the fire. Several patients refused to be moved and in such cases the doors were kept closed and the windows opened, with the result that the effect from the gas was almost negligible.

"Considerable excitement existed. Many patients were taken from the building by firemen by means of extension ladders, and two persons, a maternity patient on the fifth floor and a student nurse on the fourth floor jumped to life nets below. Neither of them suffered any serious injury. The nurses in the maternity ward removed five infants and two mothers to safety by means of the fire escape. They endeavored to go back for the other mothers but were not permitted to do so.

Proper Precautions Would Reduce Damage

"Because of the fire resistive character of the building, the fire itself was confined to the room where it originated, and all the damage was caused by the smoke and gas. Had the door been self-closing, had automatic sprinklers been provided and had there been a proper vent to the outside of the building as provided by National Fire Prevention Association regulations, it is probable that the entire loss would have been confined to this room."

Here was a building of fire resistive construction with the films stored in a separate fireproof room, yet in some unknown manner the films became ignited and the heat and fumes prevented the use of the chemical extinguishers and fire hose. Aside from the destruction of the films the actual property damage was small, but the smoke and fumes spread through the entire building. All this might have been prevented had the necessary precautions been taken.

The x-ray films commonly in use are made of a base termed "the skin," which is a nitrocelluloid made of cotton treated with nitric and sulphuric acid. These make a plastic mass, highly inflammable and similar to gun cotton. This is spread upon polished surfaces and cut to the desired size, forming a film which when coated with a nitrate of silver solution is ready for the picture. Tests on a one-foot length of film have indicated that

if ignited it will be entirely consumed in twelve seconds. A similar quantity of ordinary pulp paper would be consumed in thirty-five seconds, while rag paper would be consumed in forty-five seconds. Furthermore, in burning, the films give off a highly flammable and explosive gas.

The exposed film, or negative as it is called by the trade, constitutes a hazard depending upon the quantity stored and the manner of its storing. It has the same susceptibility to quick ignition and spread that other nitrocelluloid products have and it will decompose with evolution of dangerous gases at a relatively low temperature. To preserve the negatives it is the usual practice to keep them in envelopes of heavy Manila paper or to place them in the original carton or shipping box. The insulation thus provided considerably retards the rate of combustion. If heated sufficiently to start decomposition the usual dense fumes are given off, but the insulation provided by the heavier paper or cardboard prevents the building up of a high enough temperature to ignite these gases. It is obvious therefore that safe storage can be obtained for films of this character if relatively small quantities are kept in properly vented cabinets.

Hospitals Alive to Film Hazards

That there is a hazard in the storage and use of x-ray films seems to be fairly well recognized by hospital authorities because recent inspection of many hospitals shows that some effort has been made in each instance to provide a means of taking care of the films. A recent inspection in a large city revealed two rather extreme instances of the efforts made to guard against this danger. In one case the x-ray department is on the top floor of a comparatively new fireproof unit, which is equipped with automatic sprinklers. The laboratory being on the top story, it was found convenient to place the film storage vault on the roof of the building. This was constructed with a concrete floor and roof and walls of 12-inch brick, a wire glass skylight, a ventilator, vaporproof electric light globes, fire extinguishers and a self-closing tin-clad door. The films are filed in Manila envelopes on metal racks.

Let us consider what was found in another hospital. In a large office opening directly on to a main corridor of the main building, with wards on either side, approximately 300 pounds of films forming the current or running file are filed in Manila envelopes on a wooden rack. This rack is within a few feet of chairs arranged for patients and others, the room apparently being used as a waiting room. Films were littered along the table in this room, awaiting filing.

Across the corridor and in a small room with an ordinary wooden door, new films are kept in the original packages. This storage room is an interior closet not easy of access and is lighted by a drop light from which four or five additional lines are taken. The fixture is grossly overloaded and the wiring is in bad condition. The main storage room for the films, occupying 450 cubic feet, is on the main corridor, near the elevator, and is separated by a heavy wooden door, not self-closing but normally kept closed. No ventilation is provided although there is a window which is kept closed. The ceiling and floor of the vault are concrete and the walls are brick. Approximately 3,000 pounds of films are stored in this vault, the negatives being filed in cardboard boxes, each box containing from five to twenty negatives. The boxes are arranged on wooden racks. A radiator on the floor is in close proximity to the film racks.

Here we have the two extremes, one where every possible precaution has been taken to safeguard life and property and the other representing a real hazard to both life and property. The radiator and the poor electric wiring are obvious hazards, and the large quantity of films on wooden racks in a poorly ventilated room on the main corridor, near the elevator, affords every opportunity for trouble.

In some instances old films were found in ordinary storerooms with other combustible materials, in the basement communicating directly with the hospital. In other cases films were found in well constructed fireproof rooms but without adequate ventilation.

Problem Is Threefold

There are three problems in connection with the use of x-ray films in hospitals—the main file, the new films and the current file. As a general rule the current file is kept in an office, the new films in either the dark room or the x-ray room and the main file in a separate room. Each of these three situations presents a different hazard.

Unexposed films should be stored in metal boxes or cans (constructed of lead or lead-lined) on shelves two feet above the floor, or in approved double wall cabinets, vented to the outside air. The amount of unexposed films in standard containers kept outside of standard vaults should not exceed fifty pounds.

In some of our larger cities it has been found that the current or running file consists of from 500 to 3,500 films. In some instances the films are filed in ordinary filing cases in the main office, while in other instances they are kept in a fireproof vault with the main storage. When the

current file is kept outside a fireproof vault the number of films should be kept to a minimum and transferred to the main storage vault as rapidly as conditions will permit.

There is another and easier way to control this situation, although an inspection of hospitals indicates that it has not met with popular favor. There is a so-called noninflammable film, made by treating cotton with acetic anhydrid and acetic acid, and producing the same result physically but with the danger removed. The coating is similar to the other and it is used in the same way. The price of acetic anhydrid makes the film a little more expensive. The noninflammable film is not unburnable as the name implies, but it is as safe as paper and rags, if not more so, for although its point of ignition may be a little lower than the others its rate of burning is less and therefore the spread of the flame is slower without the production of dangerous gases. It is unnecessary to require any storage conditions for celluloid acetate films, therefore this offers an easy solution to the entire problem when a hospital uses only one style of film.

The chief objection to the use of the slow burning film is that it has a tendency to roll and is not so easily filed. Thus property and lives may be endangered to facilitate handling and filing.

In the following rules and standards reference will be made to films in pounds, and the accompanying table may be used as a guide in computing the weight of films.

No. of Negatives	Size	Approximate Weight
1000	14x17 in.	118 lbs.
1000	12x14 in.	100 lbs.
1000	10x12 in.	60 lbs.
1000	8x10 in.	40 lbs.

When over 250 pounds of films are stored they should be kept in a standard fireproof film vault constructed as follows:

1. A film vault shall not exceed 750 cubic feet in actual storage capacity, including aisles. The floor and walls of every such vault shall be of brick at least eight inches thick or of reinforced concrete at least six inches thick. The roof shall be of reinforced concrete at least six inches thick. Walls, ceilings and floors of existing buildings that conform to these requirements may serve as wall, roof or floor of such a vault, provided the other protective barrier or barriers composing the vault are rigidly tied into them and the interior vault space is limited in each case to 750 cubic feet.

2. A fire door shall be provided on each face of the wall to door openings leading into such vaults. Such doors shall be of an approved type, that is, bearing the label of the Underwriters' Laboratories. The interior door shall be made to close automatically. The outer door shall be of the swinging type and shall be made to close into a jamb so as to prevent the passage of flame around the edges. It shall be self-closing and so arranged as to close automatically in case of fire originating inside or outside the vault at such times as it may be temporarily fastened open.

3. No skylights shall be permitted.

4. Slatted shelves shall be divided vertically at intervals not exceeding 10 feet. Backs and divisions shall be preferably of incombustible material, or of ⅞-inch tongued and grooved boards, or their equivalent in resistance to heat and gases. Slats shall be not over 4 inches wide and spaced at least one inch apart. Aisle space shall be at least 3 feet wide. Height of racks shall be not over 8 feet and in no case shall stock be stored higher than 2 feet below sprinkler deflectors.

5. Each storage room shall be equipped with automatic sprinklers, arranged according to the sprinkler regulations insofar as applicable. A sprinkler head shall be installed in the center of the aisle opposite each section. The area to be covered by each sprinkler head shall not exceed 64 square feet of floor area.

A room so located on the roof as not to endanger other parts of the building requires automatic sprinklers only when salvage of the contents is desired or when there is probability of panic from the fumes.

6. An adequate vent to the outer air shall be provided. The area of the vent shall be equal to a clear opening of at least one-half square inch per cubic foot of room. Such vent may be provided by installing approved heat-releasing devices on the windows, preferably on the upper sash, arranged to open windows automatically in case of fire.

7. Heating should preferably be by hot water. When steam heating is used, only low pressure steam shall be permitted. Radiators or coils shall be on the ceiling or shall be adequately screened, and pipe lines shall be protected and screened.

General Rules and Cautions

1. A metal can having a self-closing spring hinged cover and approved by the Underwriters' Laboratories should be provided for all waste negatives and film scrap, and at no time should these be permitted to accumulate and lie around on tables, benches or floor.

2. Stocks of unexposed films should be kept at a minimum. Only a limited supply should be kept on hand at any one time.

3. In rooms where films are filed or handled there should be no flames or any other than standard electrical fixtures. The use of portable lights on extension cords should be prohibited. All open lamp bulbs should be protected from breakage by suitable guards. An approved hand fire extinguisher should be in each room where films are handled. Doors of dark rooms and of other rooms should be arranged so as to make egress easy.

4. Film negatives should be filed as soon as possible in heavy Manila envelopes, either singly or by case. These should be conveniently arranged so that from time to time useless negatives may be weeded out.

5. Film illuminators shall be so designed that the diffusing glass is not hot to the touch and there shall be no unnecessary display of film negatives in lighted illuminators. Negatives set up for viewing shall be confined to those actually being inspected.

6. Smoking shall be prohibited in rooms where films are stored, in developing rooms and in similar workrooms. "No Smoking" signs shall be posted in prominent places.

7. No films shall be stored within two feet of steam pipes, radiators, chimneys or other sources of heat.

Fireproof Cabinet Holds Current File

When it is not possible or practicable to have a storage vault or when it is necessary to have a large current or running file, such films may be safely stored in an approved fire resistive cabinet constructed as follows:

No cabinet shall exceed thirty cubic feet in capacity.

Cabinets shall be of approved insulated construction.

Cabinets having a capacity in excess of 200 pounds of films shall be divided into at least two distinct compartments; each comparement provided with an independent door and vent. The separating partitions should be practically airtight and should be of substantial construction, equivalent to the sides.

Cabinets holding over 100 pounds of films shall be equipped with at least one automatic sprinkler in each compartment unless each compartment holds less than thirty pounds of films, and the construction is such that fire will not extend from one compartment to another.

Each compartment shall be provided with a vent to the outside air. The vent shall have a cross sectional area of at least one square inch per cubic foot of capacity of the cabinet and shall be kept clear at all times.

How Clinics May Teach the Lesson of Good Ventilation

Fresh air fiends, those persons so-called because they insist on having every window in the house open both winter and summer regardless of outside conditions and temperatures, are meeting serious opposition on the part of the newer ventilation experts who point out that it is the coolness of the air, rather than the quantity, that counts in good health.

Ventilation is concerned chiefly with the skin rather than with the lungs, and pure air circulating around the body at a degree of 68 degrees F., or a little below is best for health in the opinion of Dr. Thomas D. Wood and Ethel M. Hendriksen who set forth their views in an article, "What the Clinic Should Teach About Ventilation," in the *American Journal of Nursing.*

Clinics should set an example in good ventilation for their patients and inspire a desire for fresh air, the article emphasizes, at the same time advising the public health nurse how best to teach the lesson of good ventilation on her visits to the home.

Some of the points stressed in the article are:

Windows should never be opened so as to cause a draft. An exhaust duct in the wall opposite the windows should provide for a gentle motion of the air even when the window is slightly open, and it is the gentle motion of the air that prevents the overheating of the body.

Heat should be turned off or checked before the temperature of the room reaches 68 degrees F., and children particularly should be kept out of rooms with temperature over this.

For the sleeping room a temperature of 50 degrees F., is suitable in winter, and it is not necessary to open all the windows to get the right amount of fresh air. The nearness of the bed to the windows, rather than the number of windows open, is the important consideration. Usually slight window openings will be required in climates where the temperature does not go below zero. In the summer of course as much outside air as can be secured is beneficial.

Always avoid overheating, because it is overheating that destroys the freshness of the air.

Find a Good Architect—Then Cooperate With Him

Hospital planning and designing is a practice that cannot easily be picked up by any commercial architect but requires study, research and experience, according to William A. Pite, architect, Kings College Hospital, London, England. For this reason it is essential that hospital authorities contemplating building should consult with acknowledged authorities before proceeding with any definite plans.

During the course of construction it is also important that the hospital superintendent, the chairman of the building committee and the members of the staff be in close cooperation with the architect. If this is done delay will not be caused if changes are necessary in the plans or methods of construction. Many times errors in judgment occur when the plans are drawn up, and if the hospital staff maintains close contact with the architect it will be possible to correct these errors during the course of construction.

Our Baby's First Seven Years*

"Our Baby's First Seven Years" is one more evidence of the increasing thoughtfulness and serious consideration that now surround child rearing.

For years mothers have kept baby books, eagerly recording therein each added indication of the awakening consciousness of baby minds and the development of childish faculties. The lovely thoughts that hover around the beginnings of a new life and the joy and hope that it arouses have been translated into words by many a happy mother and transcribed in such books, along with a record of Baby's first smile, his first word, his first step, his first tooth and similar significant milestones that to each mother seem epoch-making. Such a book is of a more or less sentimental value and its records largely concern the everyday happenings in the child's early life. It is a book to which the mother can turn with loving remembrance in later years.

"Our Baby's First Seven Years," the attractive publication recently issued for the Mother's Aid of the Chicago Lying-in Hospital, is designed to be just such a happy memory book, but how much more. In it not sentiment but medical science and sound psychology have dictated the records that shall be made.

*A baby record book, compiled by Hermien D. Nusbaum, with the aid of Dr. and Mrs. D. A. Horner and Dr. and Mrs. J. K. Calvin for the Mothers' Aid of the Chicago Lying-in Hospital. The Buzza Company, Chicago, 1928. Price $2.50.

The book is fascinatingly pretty. The illustrations by Ethel Schacherer are cleverly drawn and delicately colored and they portray with keen insight the varying stages of child life, from the slumbrous bundle of contentment that is Baby to the alert and imaginative youngster who creates his own entertainment. There are many pages here on which may be preserved photographs and mementoes of childhood and ample space is provided for lists of books read, samples of early handwriting and mother's notes.

The outstanding feature of the book, however, is that probably for the first time in such a publication, there are included scientific charts that will prove of practical service and value to mother and growing child.

It is at all times realized that childhood is the logical place to give a person a good start on life's journey. Some authorities believe that the building up of character should be entirely a matter for the earlier years, that it should be completed by the age of six and that if proper habits have been acquired and right principles instilled during these formative years the course of the grown child and adult will be smoothed, for the term health has come to have broader meaning—it is the measure of a person's adjustment to life.

Surely if this is true a careful record should be kept of the gradual physical and spiritual development of the body and soul. Protecting the mind of childhood means watching the habits of child life as they occur in the home and school. Science offers no substitute for the intelligent common sense of a real home. Our ideas of training have become confused by the ever increasing amount of information concerning the object of this training. Religion struggles to make the child good, education to make him wise, medical science to give him a healthy body, and it is the mother's supreme joy and

"Now we are six!"

DEVELOPMENT OF SELF-HELP

(Tell at what age the following take place: age given shows normal development)

EATING

Uses spoon (*from 1 to 2 years*)

Uses fork

Uses knife (*at 4 years*)

DRESSING

Stockings

Shoes

Put on (*from 2 to 3 years*)

Lace (*at 5 years*)

Tie bows (*at 5 years*)

Button (*at 4 years*)

HANGING UP CLOTHES

BRUSHING TEETH (*from 3 to 4 years*)

WASHING SELF (*from 3 to 6 years*)

KEEPING TOYS IN ORDER (*from 3 to 5 years*)

PERSONAL CARE

Above is a reproduction of one page from the book, showing the records that should be kept in relation to the development of self-help. The lower picture is taken from a page that deals with the child's selection of playmates and his attitude toward them.

privilege to strive to make him happy and beloved.

The aim of this book is to foster these ends and to simplify the gathering of data regarding physical changes, growth, sickness and other conditions, which will be of inestimable value to the "family physician" or to his modern equivalent—the group of specialists, who invariably want a detailed history of the patient's physical condition as far as it can be supplied. Among the matters of importance from a medical standpoint that are listed for record are: the manner of birth, the measurements at birth, identification marks, the record of growth, the first medical examination, the awakening of intelligence, muscular development, feeding during the first two years, personal habits, development of self-help, development of character, likes and dislikes, preventive measures against diseases, family tree, outstanding talents and characteristics of antecedents.

If advantage is taken of the facilities for making comprehensive records along these lines the book will eventually prove not only of great interest but also of great value. The parent who carefully fills out the blanks will be more than repaid at the completion of the seven years.

In the foreword to the book, Dr. Joseph B. DeLee says in part: "A record of all the phenomena which transpire during these years will have a value that grows with time and increases greatly with the number of babies upon whom such observations are made. For example, a study of 1000 baby books such as this, if filled out carefully, will give valuable information in every department of medicine, will guide the teacher, the physical culturist, the eugenist, the statesman, in their broad efforts to improve their race, as well as the physician in the treatment of the individual case."

An added attractive feature of this book is the inclusion of the words and musical score of Brahms' well known "Lullaby," than which there is surely nothing lovelier in slumber music.

The income derived from the sale of this book is subscribed to the Chicago Lying-in Hospital.

Hospital Is the Largest Factor in Distributing Illness Costs

The cost of illness in the United States amounts to nearly $16,000,000,000 a year, according to a study made by Dr. Homer Folks, secretary, State Charities Aid Association, New York City. The study was incorporated in an address given before the International Conference of Social Work in Paris.

The cost includes not only that of the actual illness itself but the loss of future net earnings through death or disability.

"The costs of sickness are borne by the sick people and their families," Dr. Folks points out, "in harmony with the predominant system of individualism and of a minimum of governmental action, which is the prevailing social policy in the United States.

"Various institutions and methods of securing better care of the sick, especially hospitals, clinics and nursing agencies, have, incidentally, without express intent and somewhat as a by-product, resulted in some degree of distribution of certain of the costs of illness."

It is estimated that the cost of the services of the 149,000 physicians listed in the directory of the American Medical Association approximate $745,000,000, an average of $6.21 a person, or of $26.70 for each family yearly.

Unqualified, unlicensed and nonmedical practitioners number about 20,000 and the cost of their service to patients who patronize them is estimated at $120,000,000, an average of $1 per capita, or $4.30 for each family yearly.

Dispensary care of the sick for general medical purposes amounts to about $2,233,823.55, or an average of 1.8 cents a person or 7.8 cents a family.

Hospital maintenance totals $404,501,572 a year, which represents a per capita cost annually of $3.37 or $14.49 a family.

Nursing care in patients' homes amounts to $151,900,000 a year—$1.27 a person or $5.86 a family.

The cost of medicines is $700,000,000 a year, a per capita cost of $5.83 which means a most of $24.08 a family.

Dental care costs $285,000,000 a year or $2.37 a person totaling $10.19 a family.

The loss of earning power during illness is $1,245,000,000.

Expenditures for the prevention of illness approximate $76,290,000.

Loss of future net earnings by death or disability is estimated at $12,000,000,000 a year. Reduced earnings due to chronic illness are placed at $2,000,000,000.

Concerning hospitals Dr. Folks says: "Although modern hospitals are established apparently chiefly because of the difficulty of providing efficient treatment for the sick in their own homes, the hospital has become the largest factor in distributing the direct costs of illness. The American hospital from the financial point of view presents a complicated picture. Among hospitals there is wide variation from those in which the entire service is open to patients unable to pay to those in which only paying patients are received. Relatives and friends of patients in New York hospitals pay $20,750,000 for hospital care while $25,250,000 is paid by endowments, voluntary contributions and public taxation. State hospitals are in the main supported by public taxation. In estimating the distribution of costs of hospital care it is assumed that the same proportion of hospital income is received from paying patients in other states as in New York. Cost of medical care in dispensaries is also widely distributed as is the cost of nursing care. The entire item of public health is considered as distributed. There is little distribution of cost among the other agencies giving medical care, the expenses being borne by patients or their families."

According to Dr. Folks, there is no satisfactory explanation of the fact that the various states recently have provided very extensively for the distribution of losses arising from accidents but have made no similar provision as to losses arising from illness.

Advantages of Refreshment Counters in the Hospital

Hospital lunch counters, serving refreshments to hospital visitors and to medical students and staff members at the lunch hour, would fill a long-felt want, according to an item in the *Atlantic Medical Journal*. Many institutions already provide tray service for hospital visitors, but the lunch counter would not only care for the visitors, but also for the patients awaiting their turn in the dispensaries, and would save time for the students and staff members in their trips to and from the hospital for their meals.

This scheme is universally followed throughout Europe. The social service departments conduct the lunch counters and the profits go toward the social service work of the hospital.

Combines the Duties of Librarian and Welfare Worker

The duties of the personnel welfare worker in a state hospital were interestingly outlined in our October issue in the article entitled "How the Personnel Worker of a State Hospital Functions." Bess Hinckley, who combines the duties of welfare worker and librarian at the Danville State Hospital, Danville, Pa., was a joint contributor to this article with Dr. J. Allen Jackson, and it is regretted that her name was inadvertently omitted from the credit line when the article was published.

STUDIES ON HOSPITAL PROCEDURES

The Department of Anesthesia

IT IS a far cry from the crude chemical concocted by Morton of Massachusetts and Long of Georgia so many years ago, to the refined product that is employed to-day to produce surgical anesthesia. It is of more than historic interest to recall the dramatic details attending the first use of ether to produce surgical anesthesia.

Those who came to the clinic of the Massachusetts General Hospital to jest literally remained to praise the giver of this boon to humanity. From a drug that was classed as a plaything and used to produce a hilarious semiconsciousness, modern science has developed a product so pure that its irritating properties are reduced to a minimum. Moreover, methods of administration have been so refined that it is rare indeed for deaths to occur purely as a result of the inhalation of any of the anesthetics now in use.

Gas is administered by thousands of dentists with rarely an untoward incident attending. Ether and oxygen, chloroform and ethyl chloride are used in scores of cases without serious danger to the patient. To administer ether and oxygen a variety of machines approaching perfection in the efficiency and safety with which they can be manipulated, have been devised and are now obtainable for use in the hospital.

The advance made in the use of local anesthetics in the last half decade is noteworthy. Major operations, in which massive tissue incision and excision are practiced, are performed by skilled operators without discomfort to the patient. Nerve blocking, with the desensitization of the tissues supplied by a nerve trunk, is gaining in popularity. Cocaine with its recognized attendant dangers has been replaced by other drugs developed from it. Even cocaine itself has been refined to such a degree that in its anhydrous state it can in most cases be safely employed as a spinal anesthetic. Eucain, procain, novocain and stovain are used at times intraspinally and, with the exception of stovain, in the superficial tissues to produce anesthesia.

So important and widespread has become the administration of general and local anesthetics, that in many institutions a department of anesthesia with an administrative head has been developed with well defined duties and qualifications for its members. In too many institutions, however, the administration of anesthetics is supervised in a more or less slipshod way, and the instruction of interns and nurses, as well as of physicians from without the hospital, receives but a modicum of attention. Indeed, it would seem that those institutions possessing a well developed and clearly recognized department of anesthesia are in the minority.

This should not be so, for not only does a carefully administered anesthetic forward the interests of the patient insofar as the actual saving of his life is concerned, but it also prevents what to him is often the most disagreeable remembrance of his hospital stay. There is no disputing the fact that the first stage of a poorly administered anesthetic is to the patient a nightmare, the remembrance of which he loses but slowly. The reduction of postoperative shock is closely associated with the exemplification of the art of administering ether, as well as with the proper handling of other factors that prevent actual damage to a more or less easily upset nervous system.

Administrative Head Is Necessary

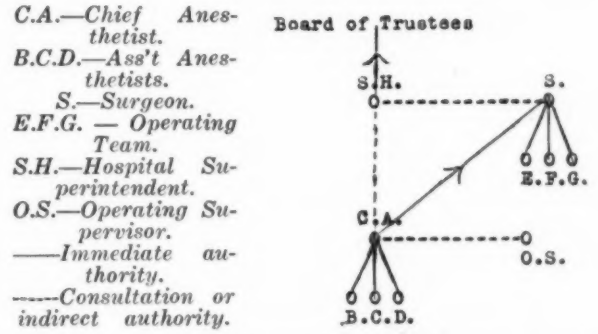
Every hospital department, to be efficient, must have an administrative head. The department of anesthesia is no exception. The chief anesthetist should be responsible for the proper administration of all general anesthetics, although in all probability, he will give but few of them himself. In some institutions, this individual is also skilled in the administration of local and spinal anesthetics. He should be responsible for the proper instruction of interns and resident physicians in the art and science of administering ether, chloroform and ethyl chloride.

Such instruction includes the explanation and demonstration of the gas and ether machine as well as of the apparatus employed for resuscitation. Nor should this instruction to interns be at all perfunctory. In institutions where a new group of interns is assigned at regular periods to the operating rooms, it should be his duty to deliver one or more didactic lectures on the subject of anesthesia and to follow these talks with actual clinical demonstrations in the use of the various types of anesthesia and resuscitation apparatus employed in the hospital. He should make certain that each anesthetist is capable of administering an anesthetic safely, and should not permit any one of these young men or women to undertake

this work for the sake of gaining experience without feeling confident that he or she is capable of doing so.

The relation of the chief anesthetist to the visiting staff is of interest and importance. The anesthetist is frequently given a full staff appointment. He may or may not live within the institution. He usually is a young physician who has had some special training in this work, who is practicing in the community, and hence, devoting but a part of his time to hospital work. During his absence from the hospital a nurse anesthetist often takes his place. He is responsible for the requisitioning of supplies for his department and for the care and upkeep of expensive and complicated anesthetizing apparatus.

The relation of this officer to the operating supervisor must be clear-cut. She is not the superior officer of the anesthetist. Lack of understanding of this fact has sometimes produced friction between these two persons which incidentally disturbed the peace and serenity of the clinic and actually reacted to the disadvantage of the patient. The accompanying graph shows the organization of most departments of anesthesia.



It will be noted that the chief anesthetist, whether or not he actually administers the anesthetic himself, is in the last analysis responsible to the surgeon for the excellence or lack of it, of the anesthesia. Direct or solid lines of authority run from the chief anesthetist to interns, nurses and others who are permitted to administer ether or gas. The chief anesthetist is also, in certain matters, responsible to the superintendent of the hospital. But the surgeon is actually in charge and responsible for the welfare of the patient, and therefore, must have complete control over the acts of the anesthetist. While the anesthetist should consult the surgeon in regard to the type of anesthesia to be employed, he is also responsible for furnishing to the surgeon any information he possesses in regard to special indications that might affect the selection of the anesthetic to be employed.

The chief anesthetist is sometimes held responsible for the presence of a properly signed operation permit as well as for the presence, on the patient's chart, of the results of the chest and urine examinations. In other institutions these duties are performed by the surgical intern or by the assistant of the operating surgeon. In any case, it should be the duty of the chief anesthetist to inform the surgeon concerning the absence of any data that might affect the chances of the patient for a speedy recovery.

Chief Anesthetist Has Educational Duty

It is necessary to have on duty at all times persons who are qualified to administer ether. In some institutions, the chief anesthetist certifies to the medical officer in charge the names of interns whom he deems so equipped. A schedule of hours on and off duty must also be arranged for this group. Sometimes where interns are not largely relied upon for the administration of ether, a paid nurse anesthetist assumes the responsibility for night anesthetics. It is the duty of the chief anesthetist to furnish from time to time, to the medical officer in charge or perhaps to the operating room supervisor, a list of anesthetists who are on call for routine and emergency operations.

The qualifications of the chief anesthetist deserve some attention. The possession of an M.D. or an R.N. degree does not guarantee that the individual can administer a safe and smooth anesthetic. A physician who professes specialization in this branch of medicine should be expected to have had an unusual training for it. This is particularly true since the scope of this work has been broadened to include not only the administration of general anesthetics but also those injected locally and intra-spinally.

Great differences of opinion exist among hospital administrators concerning the institution's obligation in training interns in the handling of anesthetics. State boards of medical education and licensure in not a few states have come to recognize that the average hospital does not always protect the life of its patients by the careful instruction of interns before they are allowed to give anesthetics. Not only is the instruction of interns in this branch necessary from an intra-hospital standpoint, but licensing boards apparently, and justly, feel that the hospital owes to the public an adequate training of the members of its intern staff in this subject.

It has been intimated above that it is the duty of the chief anesthetist to undertake this educational work, and it would appear that such a scheme is far more efficient than expecting members of the surgical staff to take their time to give didactic talks on this subject. There is no

doubt but that it is much simpler to hire trained anesthetists to administer ether than to undertake the instruction of interns in this work. On the other hand, since licensing boards require that hospital superintendents certify as to the scope of this training it becomes necessary for this instruction to be given. The hospital therefore assumes a definite obligation to comply with this ruling in accepting interns for training. Whether members of the intern staff shall be permitted and required to give anesthetics only to ward patients, while paid nurse anesthetists administer ether to private patients, is a question to be settled by the individual hospital. Whatever scheme is adopted, there are bound to arise not a few practical questions that are extremely perplexing.

Many Hospitals Teach Science of Anesthesia

When a chief anesthetist discovers an intern who is temperamentally unfitted to administer an anesthetic, a nice problem arises. A death on the table has been known so to upset the nervous balance of an intern that he has found it difficult to reestablish his self-confidence. The chief anesthetist must exercise the greatest of tact in the handling of such an individual, and must see that moral support is given the young doctor without visibly offending his dignity. At times, interns are found who do not relish the administration of ether and who try to evade this duty in every possible way.

Others are inattentive, or else they spend too much time in watching the work of the surgeon and thus neglect the safety of their patient. Such an intern, if he is deliberate in his disregard of duty, should not be permitted to administer ether, and the lack of this experience should be communicated to the state board before which he expects to appear for his examination for a license to practice. There is another type of intern who is continually and persistently late for scheduled operations. He should be informed that unless he is present a definite number of minutes before the hour scheduled for the operation, he will not be permitted to gain this experience and hence will be unable to qualify for his license to practice medicine.

Friction sometimes arises when a nurse anesthetist is required to instruct male interns and is held responsible for their work in the absence of the chief anesthetist. Young physicians do not relish accepting advice from some women who lack both a medical degree and tact in carrying out the duties of their position. Indeed, this is one of the strongest arguments for the creation of the position of chief anesthetist and placing in it a graduate of medicine of some years' standing.

Insofar as the training of nurse anesthetists is concerned, it is heartening to know that many hospitals have established schools for the teaching of the art and science of anesthesia. This is not only of practical advantage to the surgical field but also injects a beneficial educational element in the work of the operating suite. The curricula of these schools in some instances have been well thought out, and a course varying from six months to a year in length is given. A diploma is commonly granted at the completion of this experience.

The legality of the administration of dangerous drugs such as ether and chloroform by one who does not hold a medical degree has been questioned on various occasions. It would seem that the surgeon is responsible for the welfare of his patient, and that the authority the anesthetist possesses is one simply delegated to her by the surgeon for the time. She is, at all times, subject to his orders and direction, and is responsible to him and to him only for the welfare and safety of his patient.

Since comment has been made as to the person or persons by whom an anesthetic should be administered, it now seems pertinent to make some statements in regard to the questions of where and how the anesthetic should be administered. The geography of the hospital will determine more or less the question as to where the anesthetic should be given. Careful surgeons often insist that the patient shall be anesthetized in his own room, and that only when consciousness is lost is he to be moved to the operating suite. This is possible in some locations where the operating room is adjacent to the private floors.

Anesthetic Room Should Be Restful

Most surgeons agree that the mere appearance of capped and gowned doctors and nurses, together with the attendant noises and odors of the operating suite, produces a state of apprehension on the part of the patient that is not beneficial to him. In some clinics, the anesthetizing room is located outside the operating suite so that the patient never sees the personnel and equipment of the room in which he is to receive his surgical treatment. It is the grossest of mistakes, even if the day's operating schedule is overcrowded, for more than one patient to be brought to the clinic before the operating team is ready to begin its work. An arrangement whereby a patient can reach the anesthetizing room without traversing corridors leading into a busy clinic is a good one.

Some anesthetizing rooms are so constructed

that their walls are soundproof, the paint and window hangings restful, and the whole atmosphere of the room predisposing to quietude. Flowers, music and a pleasing personality in the anesthetist are but a part of a scheme to reduce the surgical shock and to hasten the postoperative recovery.

Where surgeons demand speed in placing a patient under an anesthetic, the first stage is often so hastened that harm is done to the patient's mental and nervous makeup. It is the worst possible technique to bring to a tonsil clinic a large number of children, and to allow those who are waiting for their operations to view the struggles or hear the cries of others undergoing the first stage of ether excitement. It should be a rare occurrence indeed when two or more physically strong persons are called upon to subdue a struggling ether patient. Such a happening bespeaks undue speed or lack of skill on the part of the anesthetist.

The records of the anesthetic department should be carefully and completely compiled. An ether chart should present such salient facts as the pulse and respiration rates throughout the whole operation; the blood pressure reading before and during the administration of the anesthetic; the amount of ether consumed; the type of operation performed; the name of the operator and his assistant as well as the amount of time they required to perform their work.

Should Fees Go to Hospital?

From a financial standpoint, the department of anesthesia is often a paying one to the hospital. Usually when the institution employs an anesthetist, the fee charged for her services reaches the hospital treasury. A difference of opinion has arisen as to whether a surgeon shall bring in his own anesthetist and whether it is proper in this arrangement for the fee to be diverted from the hospital's income. If the hospital possesses a proper anesthetic staff, it would seem that the institution has a right to insist that its surgeons employ these young women on their private cases. To be sure, the skill of such an anesthetist must be a matter that is not in question.

It is not ethical for a physician to refer a patient to a surgeon with the understanding that he be employed to give the anesthetic. This approaches too closely to the practice of fee-splitting, and certainly must be looked upon as a *quid pro quo* for referring the case. In some instances, physicians employ graduate nurses in their offices at a monthly stipend. They follow the practice of bringing these nurses to the hospital with them and allowing them to give their anesthetics for which a fee is charged, but which the physician receives. This would not appear to be good practice. If the hospital has an anesthetic department such fees should either be paid to the hospital anesthetist as part of her salary, or else should go to the institution. If physicians insist upon bringing their office assistants to the hospital to give their anesthetics on private cases, it would seem fair for the hospital to insist that such persons also administer ether to ward cases from which no fee is expected.

It would seem, therefore, to be good practice for the hospital to employ paid anesthetists to administer ether to both ward and private patients, and it would not seem unjust for the institution to require that surgeons employ these anesthetists in private cases upon whom they operate in the hospital's surgical clinic. No department of anesthesia can deserve its place, or maintain the respect of the staff physicians, unless it is well organized, efficient in operation, and unless sufficient salaries are paid to insure the permanency of its personnel.

Shall It Be a Large or Small Community Hospital?

That some community hospitals which are fairly close together could undoubtedly cut their operating expenses and increase their service to the public if they would pool their interests and either establish one larger community hospital or combine some of their services, such as x-ray and laboratory, is the suggestion of Edward F. Stevens architect, Boston, who addressed a meeting of the New England Hospital Association recently held in Burlington, Vt. "The day of the small unit seems to be passing and the community interest increasing," he said. "The larger centers are reaching out to offer affiliation and cooperation."

It seems to be a recognized fact that the overhead increases as the bed capacity of a hospital decreases, and for this reason a number of small communities have found it profitable to combine several small hospitals into one large unit and here incorporate all the necessary services.

"The chief advantages of the larger unit," Mr. Stevens pointed out, "are the possibilities of coordination of hospital service, better diagnostic facilities, greater possibilities through more varied equipment, the full-time service of pathologists and roentgenologists, with a sufficient corps of technicians, better service of food, more equable distribution of services of all kinds, and larger savings in the purchase of supplies. Then too, it has been noted that the larger and better equipped the hospital the greater the percentage of the population that will use the institution. It is also true that the increased hospital facilities attract the better equipped medical men looking for a life location.

The operating cost per patient in the small hospital is undoubtedly higher than in the larger institution, and for this reason the larger hospital can collect from its patients a greater percentage of total operating costs than a small hospital.

Editorials

Pneumonia and the Hospital

PNEUMONIA annually causes more deaths in the United States than any other acute communicable disease. Statistics of the United States Public Health Service demonstrate the fact that there are ten times as many deaths from this disease as from diphtheria, while those who lost their lives in 1925 as a result of typhoid fever numbered but one-fourteenth of the pneumonia mortality for that year. But medical science has accomplished much in the last decade in lowering the morbidity and mortality due to scarlet fever, diphtheria and typhoid fever.

Notwithstanding these preventive medicine victories, pneumonitis remains almost as deadly a menace to society as ever. That pneumonia, particularly of the lobar type, is transmissible from the sick to the well, has long been recognized. Savonarola in 1497 and Dunns of England in 1592 both believed that this disease was capable of transmission. Abundant evidence substantiating this fact is at hand to-day. It is not unusual for an acute pneumonitis to develop in those brought intimately in contact with the condition. It is much more common to find Type I and II organisms in the throats of doctors and nurses who are treating pneumonia than in the nasopharynx of others not in contact with the disease.

It has been proved that the mode of transference is by the spraying of virulent organisms into the air by the coughing and sneezing of infected patients, and the subsequent inhalation of these cocci by others near by.

Pneumonia is a seasonal disease and the period of its greatest incidence now approaches. The hospital should not neglect to take every precaution to protect its patients from the dangers incident to contact with this disease. It must make every effort to lower the frightful mortality among patients suffering from lobar pneumonia. To isolate these patients seems wise. If separate rooms or wards cannot be provided, then the installation of cubicles or common ward screens is certainly indicated. The prompt removal from surgical wards of patients who show symptoms of pulmonary pneumococcic infection seems judicious.

The superintendent of the hospital should lend a willing and understanding ear to staff requests to improve the prophylactic and therapeutic facilities available for the care of the pneumonias of whatever type. Moreover it would be far better for the administrator to originate improvements, whether they be physical or otherwise, in the isolation and treatment of this condition than to wait a more or less delayed or uncertain staff request therefor.

Possible If Not Probable

IS IT possible for the street water main of the institution to be shut off unexpectedly, for water faucets on the floor beneath the operating room to be opened at this time and for the water from the street later to force infected matter, hitherto withdrawn by a temporary house line vacuum, into the institution's water supply?

At a recent convention one of the speakers contended that all these circumstances may occur coincidentally or in rapid sequence, and that he had actually produced infection of sterile water in sterilizer tanks in just this way. It cannot be proved that such an occurrence is not possible when old-fashioned bottom plumbed utensil sterilizers are used. The possibilities of such a calamitous occurrence are alarming to contemplate. Nor is there any limit to the bungling work performed by some plumbers and pipe fitters.

Improperly installed floor drains, ice box discharge pipes and water filter connections offer but a few of the possibilities for mistakes in plumbing. Nor is the average plumbing inspector of municipal health boards always to be trusted to prevent infractions of the sanitary law. Lack of knowledge, petty grafting and plain neglect of duty explain some plumbing errors later discovered by alert superintendents of hospitals.

The possibilities mentioned above cannot be denied. Each hospital superintendent should make certain that none is to be found in his plant.

The Administrator's Cabinet

UPON the programs of recent hospital convocations have appeared with greater frequency than heretofore the names of social workers, dietitians, occupational and physical therapists. And almost without exception these hospital specialists have reflected credit both on themselves and the institutions they have represented.

In encouraging a continuance of this policy THE MODERN HOSPITAL is only emphasizing an administrative truth that has long been apparent to many. The fabric the hospital machine strives to weave is complex in its texture. It consists of

many strands of various strengths and of varying structure. But once this cloth of service is fashioned, the casual observer sees only a fine end product, which is able to give comfort, healing and restored usefulness to men and women.

The wise hospital administrator freely acknowledges the importance of the part played by each departmental head in his institution. He realizes that his success in conducting an efficient hospital depends largely upon the conscientious work of those departmental heads and their assistants whose names too frequently are unknown to the community generally.

To urge that institutional department heads should contribute to the hospital literature and to secure a program place for them at state or national conventions, is often but a just recognition of exceptional ability and unusual service to the special field in which these persons labor. To suppress the literary efforts of ambitious departmental heads is often to mar their usefulness by destroying initiative and lowering morale.

The staff conference is in reality the counterpart of the cabinet meeting of the municipal, state or national administrative officer. Here the absence of executive monopoly of time or opinion should be noteworthy. Here policies not persons should receive the greater emphasis in the discussion. Here it soon becomes evident whether the type of administration is monarchic or democratic. In the former case, the scepter of authority is constantly on display near the administrator's right hand and the conference participants almost automatically echo the opinions of the superintendent; in the latter, a healthy, free and perfectly candid exchange of opinion takes place.

To select the hospital departmental head thoughtfully, almost prayerfully, and then to decentralize his activities to a sufficient degree that the development of initiative is encouraged and a healthy respect for authority generated, is a wise administrative policy.

The Village Jail

WHILE this country has gone ahead at an enormous pace during the past fifty years there still remains in most of the communities a relic of the middle ages, a throwback to the times when those afflicted with mental disorders were treated as criminals.

To find in the hospital of to-day adequate facilities for the temporary care of patients under observation for psychic disturbances is rare indeed. Those responsible will say that their hospital is not equipped to care for insane persons, that it was built for physically ill people, not for the mentally ill, yet occasionally it becomes necessary to house for a few days some unfortunate whose lack of mental balance has made him unfit for society. This usually occurs pending his admittance to some state institution for the insane and in many of the smaller cities it is found necessary to house the patient in the village jail, as if he were a criminal.

Here he stays, perhaps for days, amid the insanitary and often filthy conditions that usually characterize the local calaboose, snarled at by ignorant jailers and politically-minded sheriffs. His only contact with humanity is his association with habitual drunkards, petty thieves, disgusting vermin-covered tramps and the other characters that the small towns seem to think they must house in vile-smelling, unventilated and positively dangerous surroundings.

The patient usually is not even proved to be insane but is awaiting observation. He also may come from a home that has been kept spotlessly clean and may have led a cultured life. To be ruthlessly thrown into filth and degradation certainly affects his physical well-being, if indeed it does not have a deleterious effect upon his mind. And he is sent there because the hospital does not provide adequate accommodations for him and hence neglects its duty to the community just as much as if it refused fracture cases. Not so many years ago hospitals refused to take patients who were under observation as possible tuberculous cases and also those who might have contagious diseases, but in nearly all hospitals these conditions no longer exist. Let us hope that soon all hospitals will admit willingly and humanely those unfortunates who need treatment for mental illness and that the practice of using the village jail as a waiting place for psychiatric patients will be discontinued.

Talking It Over

THE year is nearing its close; the woods are flaming with scarlet, gold and russet; trees will soon be raising their bare arms to the wintry skies. Time is flitting and we are getting older; our bodies are beginning to show the effects of wear and tear; wholly remedial defects are beginning to show themselves. All of which is an introduction to the question, "Have you had your annual physical examination this year?" We preach it to others; we must ourselves practice it; we certainly should not let the year close without having had our annual physical check-up.

* * *

IN THE recent death of Grace, Lady Osler, the world lost a great woman. The great-granddaughter of Paul Revere, the widow of a great surgeon, the widow of a great physician, the mother of an only son "dead on the

field of honor," by her life she influenced thousands of medical men for good. Public-spirited, she played a great part in raising funds for the care of the sick and wounded of the World War; she drew to her home in Oxford all sorts of men from the four corners of the world and gave them of her uplifting personality.

* * *

THROUGH the instrumentality of the American Social Hygiene Association, a committee on research in syphilis has been formed. This committee will aid by grants the development of individual and cooperative investigation of the various problems of syphilis, by qualified scientists and agencies. Here is an opportunity for hospitals to discharge effectively a part of their public health responsibilities. Applications for grants should be addressed to Dr. John H. Stokes, 3800 Chestnut Street, Philadelphia.

* * *

THE more you expect from yourself the more you will achieve; the more you expect from others the less you will succeed. The more you seek opportunity the more opportunities you will find; the more you expect opportunity to seek you the fewer opportunities you will have. The more you demand from an opportunity the more it will give you. What you get out of a chance is in direct proportion to what you put into it.

* * *

THIS is just another way of saying that the human mind requires focusing. If you focus it accurately your results will be clear-cut; if you do not, they will be blurry. The man or woman who doesn't focus on an objective, drifts; in drifting he may accidentally bump into an opportunity, but even then he cannot take advantage of it. The man who focuses carelessly never succeeds in a big way.

* * *

TWO small town bicycle makers focused their brains on aerial flight, a problem that had been declared by scientists to be insoluble. Painstaking experiments resulting from accurate mental concentration, solved the "unsolvable" and put wings on man. There is nothing that the focused human mind cannot do; there is nothing that the human mind can do well unless it is focused.

* * *

WHEN the operating room nurse picks up a Von Graefe knife, she rarely realizes, perhaps she does not know, who invented and named it. Born a century ago, deceased in 1870 after a short life of forty-two years, Albrecht von Graefe was largely responsible for the stabilization of the science of ophthalmology. He was one of the first to realize the tremendous usefulness of Von Helmholtz's invention, the ophthalmoscope. His work on iridectomy saved countless thousands from blindness.

* * *

THE human tuberculosis mortality rate reduced from 71.7 per 100,000 to 42.1; the bovine morbidity tuberculosis rate cut from 10 per cent to 0.8 per cent; 53 per cent of all rural school children immunized against diphtheria; the infant mortality rate per thousand births scaled from 85.7 to 66.2; an increase in public health nurses from two to nineteen; the correction of about 8,000 physical defects in school children—these are just a few of the things that the Cattaraugus (N. Y.) County Health Demonstration has accomplished since January 1, 1923. A noble and inspiring service, nobly and inspiringly done.

WE HAVE just found out that there is one Sunday in the year when every hospital superintendent—at least every superintendent of hospitals where interns are trained—works. It is a sort of a Hospital Sunday at which time the interns are interviewed, personnelled and ticketed. In Minnesota where the superintendents all go fishing on Sunday, that is after church services, the fish were left to their own devices on July 1 and had to find other means of amusement than dodging funny looking flies. The interns were being hooked that day and, according to rumor, none were thrown back, no matter how they measured up.

* * *

AFTER all, contractors are human beings endowed with the usual mixture of sensitiveness and pride. A good many hospital executives forget that a word of friendliness and praise may increase materially the quality of service received from those upon whom the hospital depends for supplies and apparatus. The object is not to secure compliance with the bare letter of the contract; rather is it to make the contractor anxious to give the best he can and to more than meet his obligation. A word of merited praise pays big dividends.

* * *

THE word "thrift" came into our language from the Old Norse, being derived from the verb "thrifa," to grasp. It means therefore the hanging on to what one has, and hence to grow, to increase. Its antithesis is to waste, a word which from its origin conveys the idea of destroying and of rendering desolate. Waste in the sense of uninhabited or wilderness carries this same thought.

* * *

EVEN an amateur can grasp the principle of large single savings; it takes a thoroughgoing saver to see the wastage of the microscopic fraction of a cent. Big lump savings, yes, but in so saving one must be sure that real economy is served. It isn't thrifty to think or build too small, to buy inferior apparatus and supplies or to use equipment after it has become so old that the cost of its operation has become excessive. Real thrift demands the purchase of only the best, and demands that it be conserved. More apparatus is ruined each year by lack of lubrication than by any other single factor. An oil can, a good grade of oil and their timely, periodical use is real thrift. A bread slicer will pay for itself over and over again. A pound of paint will save a thousand pounds of building.

* * *

ESSENTIALLY, hospitals are collections of specialists. The treatment and care of the sick have been divided and subdivided into a host of techniques, each of which is highly efficient. These are collected in the hospital but unless they are assembled into a machine, the sick man will not receive the greatest benefit. The gears of the various specialties must be meshed; they must be lubricated by intelligent sympathy and understanding; they must be motivated by a common purpose that is reciprocally selfless. The chief engineer of the hospital machine is the superintendent; he keeps it in repair; he prevents overheating of the bearings; he plans the work that the machine is to do and the machinery that is to do it. Unless he can make the various parts fit accurately and operate as a whole, his machine will not perform at the optimum. He must know the art of human engineering and as he grows in knowledge of his art, through study, reflection and practice, so will he grow in usefulness to the organization and community that he serves.

The Modern Hospital Reading Course: Lesson XXIII

Preparing the Hospital for a Broader Service to the Community

By C. W. MUNGER, M.D.
Director, Grasslands Hospital, Valhalla, N. Y.

EVERY hospital whether it has private, city, county or state support must in the last analysis stand or fall, stagnate or grow, in accordance with the quality of its service.

Service, however, means more than routine care of the sick. Although the care of the sick is the most important function of the hospital, two other opportunities for service exist and must not be neglected. These are active cooperation by the hospital in the advancement in medical science, and the training of professional personnel for future work in hospitals or in other lines of medical and institutional endeavor.

The many phases of the hospital's service to patients have been discussed with some thoroughness in preceding chapters. These functions constitute the *raison d'etre* of the hospital. The person who aspires to administer a hospital must have a full knowledge of these standards and needs. The fact, however, that some administrators in the past have not seen fit to think beyond this primary function of the hospital has been a contributing cause to the failure of many otherwise competent persons who have attempted to manage hospitals.

The hospital has been regarded too much as a definite entity intended to perform certain tasks according to a set routine, and too little thought has been given to what a given community may need from its hospital. It is heartily agreed that a rigid routine in certain matters makes for safety and efficiency in the hospital. It is equally true, nevertheless, that those hospitals that have blazed the trail of progress have not hesitated to upset routine and tradition at the dictates of common sense.

Nurse administrators in some instances have built their plans about the operation of a training school for nurses rather than about the needs of the community. Lay superintendents of business training have molded their methods about a financial report. Physician superintendents are inclined to consider the patient first, but have often erred in providing the hospital with everything to facilitate the doctor's work only to forget the needs of the nursing department and the financial restrictions that must be observed even in the wealthiest institutions.

The apparent fact of the failure of individuals representing these three distinct types of training for hospital administration argues for the need of a broad concept of the problem of hospital administration. The hospital administrator must avoid all of these biased viewpoints. Above all, he should not permit himself to be a cloistered individual with no interests outside of his own work. He should attempt to be a public-spirited citizen in all that the name implies. He should keep himself informed as to the needs of his community, and his ears should be constantly "to the ground" for sounds of public content or discontent with the institution.

Teaching of students, whether in medicine, nursing, dietetics, laboratory technique or occupational therapy has a salutary effect upon the functioning of the departments participating in the teaching. The atmosphere of teaching makes for clearness, thoroughness and meticulous care upon the part of the preceptors. The fact that they must go into the work in detail to make the students understand it, the necessity of answering the questions asked by the students, and the natural desire of the teachers to maintain

Review Work

1. Outline a course of study for student dietitians in a 150-bed hospital.
2. Make a plan of the activities of interns on a twelve-month rotating service in a 150-bed hospital, including especially the educational facilities of the plan.
3. Give five arguments of general application for use in securing autopsy permits.
4. How would you advise a hospital board so that it could pass upon proposed research plans intelligently?

prestige with the students, are all factors that make for better work.

Hospitals attached to medical schools are generally conceded to maintain a higher scientific standard than the average hospital. It is conceded by many that nursing is better done in hospitals where students are in training than where none but graduate nurses are employed. The same is true in dietetics and other branches of hospital work. In the absence of students there are many points that are never thought through and many procedures that are never clearly defined. The very act of teaching these procedures to students forces the department head better to organize and understand his own work.

This teaching in hospitals would hardly be worth while, however, if the hospital alone were benefited. There are few who would dispute the value to any city or state of proper bedside training for the medical student. That the hospital intern is still a student is definitely recognized by all modern standards. The value to the public of the training he receives in a good hospital is hard to estimate.

The training of nurses who later do private duty, accept public health appointments or do health work in the schools is an asset to any community provided, of course, the training is of acceptable standard. Whether at present there is an overproduction or underproduction of nurses, need not be decided here. It is perhaps safe to say that there will always be a demand for the properly educated nurse.

Modern Methods Promote Public Service

For many years, the interns, nurses, dietitians and other workers who have received training in hospitals have obtained it largely upon an apprenticeship basis. In the main, this is proper. Those of us who have been responsible for this training have at times allowed it to become a routine procedure. The student has been expected to absorb knowledge by contact rather than through a carefully conceived plan of teaching. Modern educational methods are too greatly perfected to permit any such unsupervised education. The time is past when hospitals should accept students of any sort merely for the convenience of the hospital. On the other hand, if a genuine educational atmosphere can be provided, there is no better place than the hospital for the training of these workers. A frequent mistake in the past has been the acceptance of meagerly educated persons for training in hospitals. Prerequisites should be high and they should be stoutly maintained.

Since the training of students can no longer be considered from a selfish point of view by the hospitals, and since such training is needed for various lines of community service, there can be no denying that the hospital offering educational facilities is doing more for the public than merely caring for the sick.

Postgraduate medical teaching is a necessity for every physician who wishes to keep up to date in this era of medical progress. This postgraduate teaching may be in the form of regularly constituted courses such as are given in postgraduate medical schools, or valuable instruction may be provided to the profession through clinics and scientific meetings. A hospital does not need to be associated with a medical school in order to do its share in the postgraduate teaching of physicians. Every institution should offer its facilities to the physicians in its area.

Administrator Should Secure Autopsies

Valuable teaching may be had at the autopsy table. This fact has been recognized by the medical profession for many years, and through its general recognition by hospitals and by national organizations regulating hospitals, the proportion of autopsies is on the increase. The intern, the attending physician and the laboratory all benefit, as do also such other physicians as are able to see the autopsy or study the pathological material from it. It is the duty of the hospital administrator to further the securing of autopsies wherever possible and to keep his community informed as to the great value of this work. If the administrator is not a physician, he should inform himself upon the question of autopsies so that he has no doubt as to their value and so that he may be able to present proper reasons to the patient's family for securing permits.

The hospital can do much to assist the education of the people in health matters. The maternity ward can give training in the care of infants to every mother before she goes home. The social service workers and others who make extramural contacts can and should constantly preach health and hygiene. Hospitals for children can do much toward promoting proper health habits during the hospital stay.

Whenever there is need in the community for such services as the administration of typhoid vaccine, toxin antitoxin for diphtheria and smallpox vaccine, the hospital should on every occasion open its facilities in such a manner as to assist the public health officers to the utmost. The endorsement of these public health measures by the hospital will assist in their acceptance.

The out-patient departments of hospitals, through their doctors, nurses and social workers, can be a potent factor in the prevention of illness and in the teaching of health. The out-patient waiting room is an excellent distribution center for literature on health topics. In some states, these pamphlets are provided by the department of health.

Modern science owes much of its development to organized medical research. In the early days, the important discoveries and advancements in medicine were due largely to knowledge accidentally obtained by observant physicians. From time to time in the present day, discoveries of scientific facts are made just as accidentally as was Jenner's observation that milkmaids infected with cowpox were immune to smallpox. Not until organized plans were carried out for the solution of medical problems, however, was any great progress made in research.

There is no field equal to the hospital for the study of human disease, and even in these days of endowed laboratories and foundations there still lies idle in our hospitals much medical information that is uncorrelated and unutilized. There was a time when few hospitals had laboratories for routine work. Now that the routine laboratory has been recognized as a necessity in every hospital, it is time that more and more institutions should plan to study methods, statistics and results with the idea of adding to the store of medical knowledge.

Research is not related alone to the laboratory and test tube. The ward clinician, if he has the time, the facilities and the encouragement, can study many problems and solve a few. Research endowments or grants should be the rule rather than the exception in hospitals.

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Who Should Give the Anesthetics in the Hospital?

In the giving of anesthetics as in any other service of the hospital the one question to be considered is, "What is best for the patient?" is the opinion expressed by John E. Lander, financial secretary, Wesley Hospital, Wichita, Kan., in an article on "Anesthetics in a Hospital."

"Anesthetics should be given by especially trained registered nurses employed by the hospital," Mr. Lander writes. "There are two reasons why this should be done, first, to centralize anesthetic responsibility and to increase efficiency in this branch of service, second, because the hospital needs this added revenue with which to discharge necessary obligations.

"Originally and necessarily doctors were used where anesthetics were required. With the growth of the nursing profession however the giving of anesthetics is now largely in the hands of registered nurses, trained for that purpose and under the jurisdiction of the hospital.

"Doctors and hospitals should stand side by side. Neither can survive without the other. They are working together for the good of humanity, but no fairminded doctor should or will demand financial returns for himself through his work in a hospital to such an extent that the efficiency of the hospital is curtailed.

"If ever a doctor or a group of doctors should attempt to place the hospital in a position that would jeopardize its future, then is the time for the trustees to manifest their courage, and let it be known kindly and firmly, but once and for all, that they are the governors of the hospitals and that it will be their policy to administer the affairs of the hospital in accordance with their oath of office for the good of humanity in general, and never for special privileges."

Mr. Lander sent out a questionnaire to fifty hospitals to find out how anesthetics were handled in these various institutions. In the majority of the forty-one hospitals from which replies were received, registered nurses gave the anesthetics. In a few, doctors gave the anesthetics and in one hospital they were given by interns. Superintendents of twenty-five of the forty-one institutions said that in their judgment registered nurses employed by the hospital should give the anesthetics, and that the fees should go into the hospital treasury.

"The returns on the questionnaire," Mr. Lander continues, "easily show the trend of modern thought on the giving of anesthetics. Especially trained nurses giving anesthetics regularly day after day are better equipped and more efficient than the doctor who gives only an occasional anesthetic—say one every thirty or sixty days."

Red Cross Outposts Serve Canadian Pioneers

Pioneers on the frontier settlements of the Canadian provinces are cared for in times of sickness through the outpost hospitals and nursing stations of the Red Cross. Forty outposts are now functioning, maintained with the cooperation of the citizens of the settlements and the provincial department of health, according to the *Canadian Medical Association Journal.*

More than 12,000 persons were treated last year in or through the outposts. Of this number 866 were confinement cases which otherwise would have been without adequate care.

The peculiar needs of each community are taken into consideration in the establishing of the outposts which are of three types: the center for field nursing, with the nurse working in the homes and schools of the district; the rural outpost with accommodations for one or two bed patients but with field nursing as the chief work of the nurse; the outpost in a village or small town that functions as a small hospital.

A. C. of S. "Approved List" for 1928

THE official list of hospitals fully approved and conditionally approved by the American College of Surgeons as of October 1, 1928, for the United States, Canada and other countries, comprises institutions that have adopted the minimum standard requirements of the college and are carrying them out acceptably. "Conditioned" indicates that the hospitals so designated are endeavoring to fulfill the requirements, but for lack of time or other acceptable reasons have not been able to do so. Some of these are new institutions.

The total number of approved hospitals for 1928 includes 1,919 hospitals out of 2,761 sruveyed. Hospitals on the approved list for 1927 numbered 1,803.

The institutions considered for approval include: hospitals of twenty-five beds or over in the United States and Canada; United States Government hospitals, army, navy, public health service, veterans' bureau and national homes for disabled and volunteer soldiers. Twenty-five hospitals in other countries have been awarded approval, and are included in the list of approved hospitals.

Name of Hospital and Location	Capacity
ALABAMA	
BESSEMER	
Bessemer General Hospital	85
BIRMINGHAM	
Birmingham Baptist Hospital	125
Children's Hospital	50
Gorgas Hotel Hospital	48
Hillman Hospital	160
Norwood Hospital	166
St. Vincent's Hospital	140
South Highlands Infirmary	125
DOTHAM	
Frasier-Ellis Hospital	75
Moody Hospital	100
FAIRFIELD	
Employees' Hospital of the Tennessee Coal, Iron and Railroad Company	310
JASPER	
Walker County Hospital	52
MOBILE	
City Hospital	140
Providence Infirmary	88
MONTGOMERY	
*Montgomery Memorial Hospital	75
St. Margaret's Hospital	140
SELMA	
Alabama Baptist Hospital	65
Goldsby King Memorial Hospital	50
Vaughan Memorial Hospital	60
SYLACAUGA	
Drummond-Fraser Hospital	35
Sylacauga Infirmary	50
TUSKEGEE INSTITUTE	
John A. Andrew Memorial Hospital	75
ARIZONA	
BISBEE	
*Copper Queen Hospital	56
GLOBE	
Gila County Hospital	50
JEROME	
United Verde Copper Company Hospital	46
MIAMI	
Miami-Inspiration Hospital	40
PHOENIX	
Arizona Deaconess Hospital	112
St. Joseph's Hospital	160
PRESCOTT	
Mercy Hospital	35
TUCSON	
St. Mary's Hospital and Sanatorium	120
Southern Methodist Hospital and Sanatorium	50
ARKANSAS	
EL DORADO	
*Henry C. Rosamond Hospital	50
*Warner Brown Hospital	75
FAYETTEVILLE	
Fayetteville City Hospital	60
FORT SMITH	
St. Edward's Mercy Hospital	80
*St. John's Hospital	53
Sparks Memorial Hospital	100
HELENA	
*Helena Hospital	35
HOT SPRINGS	
Leo N. Levi Memorial Hospital	60
*St. Joseph's Hospital	158
JONESBORO	
St. Bernard's Hospital	110
LITTLE ROCK	
Baptist State Hospital	300
Little Rock General Hospital	125
Missouri Pacific Hospital	150
St. Vincent's Infirmary	150
Trinity Hospital	50
TEXARKANA	
Michael Meagher Memorial Hospital	50
St. Louis Southwestern Hospital	178
CALIFORNIA	
ALHAMBRA	
Alhambra Hospital	50
ARLINGTON	
*Riverside County Hospital	200
BAKERSFIELD	
Mercy Hospital	100
BELMONT	
Community Hospital of San Mateo County	62
BERKELEY	
Alta Bates Hospital	136
University of California Infirmary	52
BURBANK	
*Burbank Hospital	50
COMPTON	
Las Campanas Hospital	35
FRENCH CAMP	
San Joaquin General Hospital	420
FRESNO	
General Hospital of Fresno County	350
GLENDALE	
Glendale Sanitarium and Hospital	275
HOLLYWOOD	
Hollywood Clara Barton Memorial Hospital	300
LA JOLLA	
Scripps Memorial Hospital	56
LOMA LINDA	
Loma Linda Sanitarium and Hospital	145
LONG BEACH	
Long Beach Community Hospital	125
St. Mary's Long Beach Hospital	75
Seaside Hospital	178
LOS ANGELES	
Angelus Hospital	139
California Lutheran Hospital	824
Children's Hospital	230
French Hospital	75
Golden State Hospital	75
Hospital of the Good Samaritan	381
Kaspare Cohn Hospital	65
Los Angeles County General Hospital—Unit No. 1	1283
Methodist Hospital of Southern California	225
Orthopedic Hospital	75
*Pacific Hospital	75
*Queen of the Angels Hospital	135
Roosevelt Hospital	76
St Vincent's Hospital	225
Santa Fe Coast Lines Hospital	145
White Memorial Hospital	132
NATIONAL CITY	
Paradise Valley Sanitarium and Hospital	120
OAKLAND	
Baby Hospital	35
Fabiola Hospital	210
Highland Hospital	275
Providence Hospital	250
Samuel Merritt Hospital	130
ORANGE	
Orange County General Hospital	200
OXNARD	
St. John's Hospital	50
PASADENA	
Pasadena Hospital	244
ROSS	
Ross General Hospital	50
SACRAMENTO	
Mater Misericordia Hospital	150
Sacramento Hospital	510
Sutter Hospital	215
SAN BERNARDINO	
Ramona Hospital	66
San Bernardino County Hospital	240
SAN DIEGO	
Mercy Hospital	235
San Diego County General Hospital	518
SAN FRANCISCO	
*Franklin Hospital	238
French Hospital	225
Hahnemann Hospital	120
Hospital for Children	275
Mary's Help Hospital	160
Mount Zion Hospital	192
St. Francis Hospital	371
St. Joseph's Hospital	222
St. Luke's Hospital	202
St. Mary's Hospital	340
San Francisco Hospital	1189
Shriners' Hospital for Crippled Children	60
Southern Pacific General Hospital	300
Stanford University Hospitals	347
University of California Hospitals	283
SANITARIUM	
St. Helena Sanitarium and Hospital	146
SAN JOSE	
O'Connor Sanitarium	104
San Jose Hospital	155
*Santa Clara County Hospital	374
SAN LEANDRO	
Fairmont Hospital	750
SAN MATEO	
Mills Memorial Hospital	79
SAN PEDRO	
San Pedro General Hospital	88
SANTA BARBARA	
St. Francis Hospital	100
Santa Barbara Cottage Hospital	176
Santa Barbara General Hospital	200
SANTA MONICA	
Santa Monica Hospital	61
STOCKTON	
*St. Joseph's Home and Hospital	125
WESTWOOD	
*Westwood Hospital	100
WOODLAND	
Woodland Clinic Hospital	100
COLORADO	
BOULDER	
Boulder-Colorado Sanitarium	100
Community Hospital	75
COLORADO SPRINGS	
Beth-El General Hospital	94
Glockner Sanatorium and Hospital	250
National Methodist Episcopal Sanatorium for Tuberculosis	60
St. Francis Hospital	150
DENVER	
Agnes Memorial Sanatorium	158
Beth Israel Hospital	67
Children's Hospital	135
Colorado General Hospital	170
Denver General Hospital	500
Mercy Hospital	178
National Jewish Hospital	250
*Park Avenue Hospital	50
Presbyterian Hospital	164
St. Anthony's Hospital	200
St. Joseph's Hospital	225
St. Luke's Hospital	224
Sanatorium of the Jewish Consumptives' Relief Society	300
DURANGO	
*Mercy Hospital	35

The asterisk (*) indicates conditional approval.

SUMMARY STATISTICS SHOWING NUMBER AND PERCENTAGE OF APPROVED HOSPITALS IN EACH STATE AND PROVINCE WITH AGGREGATE NUMBER AND AVERAGE PERCENTAGE FOR THE UNITED STATES AND CANADA

State	100 or more beds			50 to 99 beds			25 to 49 beds			Total hospitals over 25 beds			State
	Number of hospitals	Approved		Number of hospitals	Approved		Number of hospitals	Approved		Number of hospitals	Approved		
		Number	Per-centage		Number	Per-centage		Number	Per-centage		Number	Per-centage	
Alabama	10	10	100	23	12	52.2	7	2	28.6	40	24	60	Alabama
Arizona	5	5	100	5	3	60	6	3	50	16	11	68.8	Arizona
Arkansas	10	9	90	10	8	80	4	1	25	24	18	75	Arkansas
California	77	67	87	40	19	47.5	33	2	6	150	88	58.7	California
Colorado	18	18	100	14	11	78.6	8	3	37.5	40	32	80	Colorado
Connecticut	20	20	100	8	7	87.5	1	0	0	29	27	93.1	Connecticut
Delaware	2	2	100	3	3	100	0	0	0	5	5	100	Delaware
District of Columbia	15	15	100	1	0	0	0	0	0	16	15	93.8	District of Columbia
Florida	13	12	92.3	6	2	33.3	3	2	66.6	22	16	72.7	Florida
Georgia	13	12	92.3	20	10	50	3	1	33.3	36	23	63.9	Georgia
Idaho	4	4	100	6	4	66.6	6	2	33.3	16	10	62.5	Idaho
Illinois	95	77	81	52	20	38.5	12	0	0	159	97	61	Illinois
Indiana	26	24	92.3	17	10	59	8	0	0	51	34	66.7	Indiana
Iowa	23	22	96	27	14	51.8	17	2	11.8	67	38	56.7	Iowa
Kansas	11	10	91	24	17	71	17	6	35.3	52	33	63.5	Kansas
Kentucky	14	14	100	15	9	60	9	3	33.3	38	26	68.4	Kentucky
Louisiana	15	14	93.3	14	11	78.6	6	1	16.7	35	26	74.3	Louisiana
Maine	7	7	100	13	8	61.5	3	0	0	23	15	65.2	Maine
Maryland	22	22	100	7	5	71.4	6	2	33.3	35	29	82.9	Maryland
Massachusetts	66	65	98.5	35	27	77.1	20	5	25	121	97	80.2	Massachusetts
Michigan	35	34	97.1	26	15	57.7	20	3	15	81	52	64.2	Michigan
Minnesota	34	34	100	21	11	52.4	15	2	13.3	70	47	67.1	Minnesota
Mississippi	10	10	100	10	9	90	11	5	45.5	31	24	77.4	Mississippi
Missouri	30	36	92.3	18	10	55.5	5	1	20	62	47	75.8	Missouri
Montana	8	8	100	10	9	90	11	2	18.2	29	19	65.5	Montana
Nebraska	14	10	71.4	10	6	60	9	1	11.1	33	17	51.5	Nebraska
Nevada	0	0	0	2	2	100	1	1	100	3	3	100	Nevada
New Hampshire	4	4	100	11	11	100	2	1	50	17	16	94.1	New Hampshire
New Jersey	44	44	100	19	10	52.6	13	2	15.4	76	56	73.7	New Jersey
New Mexico	4	3	75	5	5	100	7	1	14.3	16	9	56.3	New Mexico
New York	173	163	94.2	66	41	62.1	25	1	4	264	205	77.6	New York
North Carolina	12	11	91.7	27	23	85.1	15	9	60	54	43	79.6	North Carolina
North Dakota	7	5	71.4	8	2	25	5	0	0	20	7	35	North Dakota
Ohio	58	58	100	32	22	68.7	30	2	66.6	120	82	68.8	Ohio
Oklahoma	6	6	100	13	5	38.4	17	1	6	36	12	33.3	Oklahoma
Oregon	10	7	70	19	9	47.4	3	0	0	32	16	50	Oregon
Pennsylvania	111	106	95.5	75	47	62.7	14	6	43	200	159	79.5	Pennsylvania
Rhode Island	8	8	100	10	2	20	16	0	0	34	10	29.4	Rhode Island
South Carolina	6	6	100	12	9	75	2	0	0	20	15	75	South Carolina
South Dakota	5	5	100	14	14	100	5	1	20	24	20	83.3	South Dakota
Tennessee	15	14	93.3	11	10	91	7	0	0	33	24	72.7	Tennessee
Texas	30	26	86.6	28	15	53.6	19	4	21.5	77	45	58.4	Texas
Utah	5	5	100	1	1	100	1	1	100	7	7	100	Utah
Vermont	2	2	100	6	5	83.3	1	0	0	9	7	77.7	Vermont
Virginia	16	14	87.5	26	22	84.6	4	1	25	46	37	80.4	Virginia
Washington	23	21	91.3	17	13	76.4	15	4	26.6	55	38	69.1	Washington
West Virginia	11	10	91	25	16	64	9	1	11.1	45	27	60	West Virginia
Wisconsin	38	37	97.4	14	5	35.6	10	0	0	62	42	67.7	Wisconsin
Wyoming	3	3	100	4	1	25	4	0	0	11	4	35.4	Wyoming
Canal Zone	1	1	100	0	0	0	0	0	0	1	1	100	Canal Zone
Hawaii	3	3	100	1	0	0	1	1	100	5	4	80	Hawaii
Porto Rico	1	1	100	0	0	0	0	0	0	1	1	100	Porto Rico
Totals for United States	1,202	1,124	93.5	881	550	62.4	466	86	18.4	2,549	1,760	69	**Totals for United States**
Alberta	7	7	100	5	5	100	2	2	100	14	14	100	Alberta
British Columbia	8	7	87.5	8	0	0	3	0	0	19	7	37	British Columbia
Manitoba	9	9	100	1	0	0	2	1	50	12	10	83.3	Manitoba
New Brunswick	3	3	100	8	8	100	4	2	50	15	13	86.6	New Brunswick
Nova Scotia	4	4	100	8	8	100	3	0	0	15	12	80	Nova Scotia
Ontario	33	30	91	28	14	50	8	0	0	69	44	63.8	Ontario
Prince Edward Island	0	0	0	3	3	100	0	0	0	3	3	100	Prince Edward Island
Quebec	18	16	88.8	5	3	60	2	0	0	25	19	76	Quebec
Saskatchewan	5	5	100	7	7	100	3	0	0	15	12	80	Saskatchewan
Totals for Canada	87	81	93.1	73	48	65.7	27	5	18.5	187	134	71.6	**Totals for Canada**
Grand Totals	1,289	1,205	93.5	954	598	62.7	493	91	18.4	2,736	1,894	69.5	**Grand Totals**

GRAND JUNCTION
St. Mary's Hospital..... 67
GREELEY
Greeley Hospital..... 70
LA JUNTA
Atchison, Topeka and Santa Fe Railroad Hospital..... 40
LONGMONT
Longmont Hospital..... 43
PUEBLO
Minnequa Hospital..... 225
Parkview Hospital..... 86
St. Mary's Hospital..... 150
SALIDA
Denver and Rio Grande Western Railroad Hospital..... 85
*Red Cross Hospital..... 50
TRINIDAD
Mt. San Rafael Hospital..... 75

CONNECTICUT

BRIDGEPORT
Bridgeport Hospital..... 289
St. Vincent's Hospital..... 236
BRISTOL
Bristol Hospital..... 100
DANBURY
Danbury Hospital..... 125
DERBY
Griffin Hospital..... 100
GREENWICH
Greenwich Hospital..... 125
HARTFORD
Hartford Hospital..... 650
Mt. Sinai Hospital..... 75
Municipal Hospital..... 110
St. Francis Hospital..... 580
MERIDEN
Meriden Hospital..... 116
MIDDLETOWN
Middlesex Hospital..... 150
NEW BRITAIN
New Britain General Hospital..... 221
NEW HAVEN
Grace Hospital..... 245
Hospital of St. Raphael..... 210
New Haven Hospital..... 410
NEW LONDON
Home Memorial Hospital..... 60
Lawrence and Memorial Associated Hospitals..... 178
NORWALK
Norwalk General Hospital..... 90
NORWICH
William W. Backus Hospital..... 155
SOUTH MANCHESTER
Manchester Memorial Hospital..... 66
STAMFORD
Stamford Hospital..... 279
TORRINGTON
Charlotte Hungerford Hospital..... 80
WATERBURY
St. Mary's Hospital..... 220
Waterbury Hospital..... 300
WILLIMANTIC
St. Joseph's Hospital..... 55
WINSTED
*Litchfield County Hospital..... 76

DELAWARE

LEWES
Beebe Hospital..... 60
WILMINGTON
Delaware Hospital..... 200
Homeopathic Hospital..... 108
Physicians and Surgeons Hospital..... 65
*St. Francis Hospital..... 70

DISTRICT OF COLUMBIA

WASHINGTON
Central Dispensary and Emergency Hospital..... 160
Children's Hospital..... 165
Columbia Hospital for Women..... 203
Episcopal Eye, Ear and Throat Hospital 100
Freedmen's Hospital..... 268
Gallinger Municipal Hospital..... 365
Garfield Memorial Hospital..... 366
George Washington University Hospital. 124
Georgetown University Hospital..... 235
Providence Hospital..... 340
Sibley Memorial Hospital..... 310
Washington Sanitarium and Hospital... 180

FLORIDA

JACKSONVILLE
Duval County Hospital..... 210
Riverside Hospital..... 40
St. Luke's Hospital..... 197
St. Vincent's Hospital..... 242
LAKELAND
Morrell Memorial Hospital..... 110
MIAMI
Allison Hospital..... 100
James M. Jackson Memorial Hospital.. 325
ORLANDO
*Orange General Hospital..... 150
PENSACOLA
Pensacola Hospital..... 115
ST. AUGUSTINE
East Coast Hospital..... 100
Flagler Hospital..... 81
ST. PETERSBURG
Faith Hospital..... 57
TAMPA
Tampa Municipal Hospital..... 216
WEST PALM BEACH
Good Samaritan Hospital..... 125

GEORGIA

ALBANY
Phoebe Putney Memorial Hospital..... 46
ATHENS
Athens General Hospital..... 75
*St. Mary's Hospital..... 50
ATLANTA
Davis-Fischer Sanatorium..... 150
Georgia Baptist Hospital..... 150
Grady Memorial Hospital..... 530
Piedmont Hospital..... 133
St. Joseph's Infirmary..... 125
Wesley Memorial Hospital..... 166
AUGUSTA
University Hospital..... 261
Wilhenford Hospital for Women and Children..... 54
COLUMBUS
City Hospital..... 125
DECATUR
Scottish Rite Hospital for Crippled Children..... 64
GAINESVILLE
Downey Hospital..... 52
MACON
Macon Hospital..... 159
*Middle Georgia Sanatorium..... 50
PLAINS
Wise Sanitarium..... 60
ROME
Harbin Hospital..... 75
THOMASVILLE
John D. Archbold Memorial Hospital.. 113
WAYCROSS
Atlantic Coast Lines Hospital..... 75

IDAHO

BOISE
St. Alphonsus Hospital..... 138
St. Luke's Hospital..... 60
IDAHO FALLS
Idaho Falls Latter Day Saints Hospital 100
LEWISTOWN
St. Joseph's Hospital..... 100
NAMPA
Mercy Hospital..... 35
POCATELLO
Pocatello General Hospital..... 66
St. Anthony's Mercy Hospital..... 50
ST. MARIES
*St. Maries Hospital..... 40
WALLACE
Providence Hospital..... 65

ILLINOIS

ALTON
St. Joseph's Hospital..... 75
BERWYN
Berwyn Hospital..... 53
BLUE ISLAND
St. Francis Hospital..... 100
CAIRO
*St. Mary's Hospital.....128
CHICAGO
Albert Merritt Billings Hospital..... 120
Alexian Brothers Hospital..... 300
*American Hospital..... 127
Augustana Hospital..... 375
Chicago Eye, Ear, Nose and Throat Hospital..... 75
Chicago Lying-in Hospital..... 260
Chicago Memorial Hospital..... 105
Children's Memorial Hospital..... 260
Columbus Hospital..... 173
Cook County Hospital.....3300
Evangelical Deaconess Hospital..... 100
Frances E. Willard National Temperance Hospital..... 220
Garfield Park Hospital..... 250
Grant Hospital..... 325
Henrotin Hospital..... 75
Hospital of St. Anthony de Padua..... 255
Illinois Central Hospital..... 200
Illinois Eye and Ear Infirmary..... 140
Illinois Masonic Hospital..... 170
*Jackson Park Hospital..... 225
John B. Murphy Hospital..... 126
Lake View Hospital..... 150
Lutheran Deaconess Home and Hospital 236
Lutheran Memorial Hospital..... 209
Mercy Hospital..... 390
Michael Reese Hospital..... 557
Misericordia Hospital..... 100
Mother Cabrini Memorial Hospital..... 190
Mt. Sinai Hospital..... 202
Municipal Contagious Disease Hospital.. 326
North Chicago Hospital..... 100
*Post-Graduate Hospital..... 85
Presbyterian Hospital..... 439
*Provident Hospital..... 65
Ravenswood Hospital..... 194
Rogers Park Hospital..... 116
Roseland Community Hospital..... 127
St. Anne's Hospital..... 154
St. Bernard's Hospital..... 200
St. Elizabeth's Hospital..... 225
St. Joseph's Hospital..... 200
St. Luke's Hospital..... 681
St. Mary of Nazareth Hospital..... 250
Shriners' Hospital for Crippled Children 60
South Shore Hospital..... 125
Swedish Covenant Hospital..... 150
University Hospital..... 118
Washington Boulevard Hospital..... 110
Washington Park Community Hospital. 180
Wesley Memorial Hospital..... 275
West Side Hospital..... 175
*Women and Children's Hospital..... 120
DANVILLE
Lake View Hospital..... 125
St. Elizabeth's Hospital..... 150
DECATUR
Decatur and Macon County Hospital.... 170
Wabash Employees' Hospital..... 85
EAST ST. LOUIS
St. Mary's Hospital..... 318
EVANSTON
Evanston Hospital..... 287
St. Francis Hospital..... 225
FREEPORT
*Evangelical Deaconess Hospital..... 103
*Freeport Methodist Memorial Hospital.. 50
*St. Francis Hospital..... 160
GENEVA
*Community Hospital..... 85
GRANITE CITY
St. Elizabeth's Hospital..... 68
HARVEY
Ingalls Memorial Hospital..... 74
HIGHLAND PARK
Highland Park Hospital..... 70
HINSDALE
*Hinsdale Sanitarium and Hospital..... 169
JACKSONVILLE
Our Savior's Hospital..... 100
Passavant Memorial Hospital..... 100
JOLIET
St. Joseph's Hospital..... 170
Silver Cross Hospital..... 100
KANKAKEE
St. Mary Hospital..... 100
KEWANEE
Kewanee Public Hospital..... 55
St. Francis Hospital..... 56
MELROSE PARK
Westlake Hospital..... 100
MOLINE
*Lutheran Hospital..... 80
*Moline Public Hospital..... 110
MURPHYSBORO
St. Andrew's Hospital..... 50
OAK PARK
Oak Park Hospital..... 175
West Suburban Hospital..... 403
OLNEY
Olney Sanitarium..... 75
PANA
Huber Memorial Hospital..... 50
PEORIA
St. Francis Hospital..... 250
QUINCY
Blessing Hospital..... 183
St. Mary's Hospital..... 150
ROCKFORD
Rockford Hospital..... 110
ROCK ISLAND
St. Anthony's Hospital..... 152
WAUKEGAN
Victory Memorial Hospital..... 88

INDIANA

ANDERSON
St. John's Hospital..... 65
EAST CHICAGO
St. Catherine's Hospital..... 300
EVANSVILLE
Protestant Deaconess Hospital..... 126
St. Mary's Hospital..... 125
Walker Hospital..... 95
FORT WAYNE
Fort Wayne Lutheran Hospital..... 165
Methodist Hospital..... 138
St. Joseph's Hospital..... 250
FRANKFORT
Clinton County Hospital..... 58
GARY
Illinois Steel Company, Gary Hospital.. 100
Methodist Hospital..... 100
St. Mary's Mercy Hospital..... 150
HAMMOND
St. Margaret Hospital..... 250
INDIANAPOLIS
Indianapolis City Hospital..... 541
*Methodist Episcopal Hospital..... 412
Robert W. Long Hospital and James Whitcomb Riley Hospital for Children 400
*St. Vincent's Hospital..... 250

LA FAYETTE
La Fayette Home Hospital..... 135
St. Elizabeth's Hospital..... 230
Wabash Valley Sanitarium and Hospital 51
LA PORTE
Holy Family Hospital..... 96
LOGANSPORT
*St. Joseph's Hospital..... 65
MARION
Grant County Hospital..... 55
MICHIGAN CITY
St. Anthony's Hospital..... 100
MISHAWAKA
St. Joseph's Hospital..... 104
MUNCIE
Muncie Home Hospital..... 74
NEW ALBANY
St. Edward's Hospital..... 96
RICHMOND
Reid Memorial Hospital..... 140
SOUTH BEND
Epworth Hospital..... 150
St. Joseph's Hospital..... 149
TERRE HAUTE
St. Anthony's Hospital..... 176
Union Hospital..... 178

IOWA

AMES
Iowa State College Hospital..... 100
ANAMOSA
*Mercy Hospital..... 35
BURLINGTON
*Burlington Hospital..... 125
CARROLL
*St. Anthony's Hospital..... 100
CEDAR RAPIDS
Mercy Hospital..... 175
St. Luke's Methodist Hospital..... 192
CENTERVILLE
*St. Joseph's Hospital..... 50
CLINTON
Jane Lamb Memorial Hospital..... 100
St. Joseph's Mercy Hospital..... 62
COUNCIL BLUFFS
Jennie Edmundson Memorial Hospital.. 125
Mercy Hospital..... 124
DAVENPORT
Mercy Hospital..... 141
St. Luke's Hospital..... 89
DES MOINES
Iowa Lutheran Hospital..... 150
Iowa Methodist Hospital..... 282
Mercy Hospital..... 171
*Polk County Public Hospitals—
General Division..... 100
Broadlawns Division..... 100
DUBUQUE
Finley Hospital..... 100
FORT DODGE
St. Joseph's Mercy Hospital..... 110
FORT MADISON
Atchison, Topeka and Santa Fe Hospital 60
GRINNELL
*Community Hospital..... 42
IOWA CITY
Mercy Hospital..... 150
State University of Iowa, University
Hospitals..... 818
LE MARS
*Sacred Heart Hospital..... 50
MASON CITY
Park Hospital..... 55
St. Joseph's Mercy Hospital..... 75
NEW HAMPTON
*St. Joseph's Hospital..... 60
OTTUMWA
*Ottumwa Hospital..... 70
St. Joseph's Hospital..... 88
SIOUX CITY
Lutheran Hospital..... 75
Methodist Hospital..... 130
St. Joseph's Mercy Hospital..... 200
St. Vincent's Hospital..... 125
WATERLOO
*Allen Memorial Hospital..... 57
St. Francis Hospital..... 85
WAVERLY
St. Joseph's Mercy Hospital..... 50

KANSAS

AUGUSTA
*Augusta Hospital..... 26
CONCORDIA
*Concordia Hospital..... 35
St. Joseph's Hospital..... 75
EL DORADO
St. Luke's Hospital..... 46
ELLSWORTH
Ellsworth Hospital..... 47
FORT SCOTT
*Mercy Hospital..... 50
GREAT BEND
St. Rose's Hospital..... 50
HALSTEAD
Halstead Hospital..... 140
HAYS
St. Anthony's Hospital..... 60
HUTCHISON
Grace Hospital..... 107
St. Elizabeth's Mercy Hospital..... 50
KANSAS CITY
Bell Memorial Hospital..... 120
Bethany Methodist Hospital..... 145
St. Margaret's Hospital..... 300
LEAVENWORTH
*St. John's Hospital..... 50
LIBERAL
*Epworth Hospital..... 36
MULVANE
*Atchison, Topeka and Santa Fe Hospital 60
NEWTON
Axtell Christian Hospital..... 50
Bethel Deaconess Hospital..... 50
PARSONS
*Missouri-Kansas-Texas Railroad Em-
ployes' Hospital..... 60
PITTSBURG
Mt. Carmel Hospital..... 75
SABETHA
St. Anthony Murdock Memorial Hospital 50
SALINA
St. John's Hospital..... 55
TOPEKA
Atchison, Topeka and Santa Fe Hospital 100
Christ's Hospital..... 100
Jane C. Stormont Hospital..... 93
St. Francis Hospital..... 75
WELLINGTON
Hatcher Hospital..... 35
WICHITA
St. Francis Hospital..... 230
Wesley Hospital..... 215
WINFIELD
St. Mary's Hospital..... 50
William Newton Memorial Hospital.... 60

KENTUCKY

ASHLAND
*Baptist General Hospital..... 78
*King's Daughters' Hospital..... 50
COVINGTON
St. Elizabeth's Hospital..... 375
William Booth Memorial Hospital..... 112
DAYTON
Speers Memorial Hospital..... 100
JACKSON
*Bach Hospital..... 25
LEXINGTON
Good Samaritan Hospital..... 110
St. Joseph's Hospital..... 190
Shriners' Hospital for Crippled Chil-
dren—Mobile Unit..... 25
LOUISVILLE
Children's Free Hospital..... 72
*Jewish Hospital..... 55
Kentucky Baptist Hospital..... 150
*Kosair Crippled Children Hospital..... 50
Louisville City Hospital..... 400
J. N. Norton Memorial Infirmary..... 112
Methodist Episcopal Deaconess Hospital 75
St. Anthony's Hospital..... 150
St. Joseph's Infirmary..... 300
SS. Mary and Elizabeth Hospital..... 150
LYNCH MINES
Lynch Hospital of the United States
Coal and Coke Company..... 50
MURRAY
William Mason Memorial Hospital..... 75
PADUCAH
Illinois Central Hospital..... 100
*Riverside Hospital..... 120
PARIS
Massie Memorial Hospital..... 48

LOUISIANA

ALEXANDRIA
Baptist Hospital..... 66
BATON ROUGE
Our Lady of the Lake Hospital..... 112
BOGALUSA
Elizabeth Sullivan Memorial Hospital.. 95
HAYNESVILLE
*Haynesville Hospital..... 26
JACKSON
Parker Hospital..... 54
LAKE CHARLES
St. Patrick's Sanitarium..... 75
MONROE
St. Francis Sanitarium..... 125
NEW ORLEANS
Eye, Ear, Nose and Throat Hospital.... 66
*Flint-Goodridge Hospital..... 60
*French Hospital..... 75
Hotel Dieu..... 285
*Illinois Central Hospital..... 70
Mercy Hospital—Soniat Memorial..... 125
Presbyterian Hospital..... 96
State of Louisiana Charity Hospital....1551
Southern Baptist Hospital..... 248
Touro Infirmary..... 406
SHREVEPORT
Highland Sanitarium..... 116
North Louisiana Sanitarium..... 100
Shreveport Charity Hospital..... 300
Shreveport Sanitarium and T. E. Schum-
pert Memorial Hospital..... 200
Shriners' Hospital for Crippled Children 60
*Tri-State Sanitarium..... 60

MAINE

AUGUSTA
*Augusta General Hospital..... 90
BANGOR
Eastern Maine General Hospital..... 146
BATH
Bath City Hospital..... 60
BIDDEFORD
*Webber Hospital..... 60
LEWISTON
Central Maine General Hospital..... 125
St. Mary's General Hospital..... 140
PORTLAND
Children's Hospital..... 70
Maine Eye and Ear Infirmary..... 100
Maine General Hospital..... 185
St. Barnabas Hospital..... 90
State Street Hospital..... 70
ROCKLAND
*Knox County General Hospital..... 77
WATERVILLE
Sisters' Hospital..... 100

MARYLAND

BALTIMORE
Baltimore City Hospitals.....1747
Bon Secours Hospital..... 66
Children's Hospital School..... 120
Church Home and Infirmary..... 176
Colonial Hospital..... 100
Franklin Square Hospital..... 120
Hospital for Women of Maryland..... 134
Howard A. Kelley Hospital..... 35
James Lawrence Kernan Hospital..... 105
Johns Hopkins Hospital..... 717
Maryland General Hospital..... 240
Mercy Hospital..... 275
St. Agnes' Hospital..... 212
St. Joseph's Hospital..... 265
Sinai Hospital..... 271
South Baltimore General Hospital..... 111
Union Memorial Hospital..... 229
University Hospital of the University
of Maryland..... 250
Volunteers of America Hospital..... 40
West Baltimore General Hospital..... 165
CAMBRIDGE
Cambridge-Maryland Hospital..... 100
CUMBERLAND
Allegany Hospital of the Sisters of
Charity..... 100
Home and Infirmary of Western Mary-
land..... 75
EASTON
Emergency Hospital..... 60
FREDERICK
Frederick City Hospital..... 85
HAGERSTOWN
Washington County Hospital..... 90
SALISBURY
Peninsula General Hospital..... 108

MASSACHUSETTS

ARLINGTON
Symmes Arlington Hospital..... 80
ATTLEBORO
Sturdy Memorial Hospital.....125
BEVERLY
Beverly Hospital..... 120
BOSTON
Beth Israel Hospital..... 190
Boston City Hospital.....1891
Boston Dispensary Hospital for Children 38
Boston Lying-in Hospital..... 195
Carney Hospital..... 250
Children's and Infants' Hospital..... 214
*Emerson Hospital..... 60
Evangeline Booth Maternity Hospital
and Home..... 60
Faulkner Hospital..... 75
Harley Private Hospital..... 83
House of the Good Samaritan..... 75
Long Island Hospital..... 450
Massachusetts Eye and Ear Infirmary.. 209
Massachusetts General Hospital..... 426
Massachusetts Homeopathic Hospital... 635
Massachusetts Women's Hospital..... 80
New England Baptist Hospital..... 125
New England Deaconess' Association
Hospitals..... 266
New England Hospital for Women and
Children..... 240
Peter Bent Brigham Hospital..... 236
Robert Breck Brigham Hospital..... 115
St. Margaret's and St. Mary's Hospital. 137
BRIGHTON
St. Elizabeth's Hospital..... 300
BROCKTON
Brockton Hospital..... 144
Goddard Hospital..... 71

BROOKLINE
Brooks Hospital 40
Free Hospital for Women 94
CAMBRIDGE
Cambridge City Hospital 142
Cambridge Hospital 160
CHELSEA
*Chelsea Memorial Hospital 105
Soldiers' Home in Massachusetts 220
CLINTON
Clinton Hospital 85
CONCORD
*Emerson Hospital 47
FALL RIVER
Fall River General Hospital 312
St. Anne's Hospital 110
Truesdale Hospital 125
Union Hospital 176
FITCHBURG
Burbank Hospital 200
FRAMINGHAM
Framingham-Union Hospital 154
GARDNER
Henry Heywood Memorial Hospital 100
GREENFIELD
Franklin County Public Hospital 68
HAVERHILL
General Stephen Henry Gale Hospital .. 125
*Hale Hospital 65
HOLYOKE
Holyoke City Hospital 150
Providence Hospital 140
LAWRENCE
Lawrence General Hospital 150
LEOMINSTER
Leominster Hospital 64
LOWELL
Lowell Corporation Hospital 113
Lowell General Hospital 130
St. John's Hospital 145
LYNN
Lynn Hospital 203
MALDEN
Malden Hospital 118
MEDFORD
Lawrence Memorial Hospital 101
MELROSE
Melrose Hospital 75
New England Sanitarium and Hospital. 165
MILFORD
Milford Hospital 55
MONTAGUE CITY
Farren Memorial Hospital 70
NATICK
*Leonard Morse Hospital 57
NEW BEDFORD
St. Luke's Hospital 330
NEWBURYPORT
Anna Jaques Hospital 61
NEWTON LOWER FALLS
Newton Hospital 179
NORTHAMPTON
Cooley Dickinson Hospital 125
NORTH ADAMS
North Adams Hospital 100
NORWOOD
Norwood Hospital 100
PEABODY
Josiah B. Thomas Hospital 50
PITTSFIELD
House of Mercy Hospital 221
St. Luke's Hospital 165
QUINCY
Quincy City Hospital 150
ROXBURY
Hart Private Hospital 85
Roxbury Hospital 75
SALEM
North Shore Babies' Hospital 50
Salem Hospital 132
SOMERVILLE
Somerville Hospital 80
SPRINGFIELD
Mercy Hospital 200
Shriners' Hospital for Crippled Children 60
Springfield Hospital 188
Wesson Maternity Hospital 112
Wesson Memorial Hospital 125
TAUNTON
*Morton Hospital 75
WALTHAM
Waltham Hospital 150
WARE
*Mary Lane Hospital 45
WESTFIELD
Noble Hospital 107
WOBURN
Charles Choate Memorial Hospital 58
WORCESTER
City Hospital 400
Fairlawn Hospital 65
Memorial Hospital 215
St. Vincent's Hospital 250
Worcester Hahnemann Hospital 102

MICHIGAN

ALBION
James W. Sheldon Memorial Hospital .. 50
ANN ARBOR
St. Joseph's Mercy Hospital 201
University Hospital 1285
BATTLE CREEK
Battle Creek Sanitarium 1000
Leila Y. Post Montgomery Hospital 100
Nichols Memorial Hospital 100
BAY CITY
Mercy Hospital 180
CADILLAC
*Mercy Hospital 50
DETROIT
Children's Hospital of Michigan 250
*Detroit Eye, Ear, Nose and Throat Hospital 120
Evangelical Deaconess Hospital 135
Grace Hospital 397
Harper Hospital 487
Henry Ford Hospital 455
Jefferson Clinic and Diagnostic Hospital 55
Lincoln Hospital 62
Michigan Mutual Hospital 45
Providence Hospital 450
Receiving Hospital 750
St. Joseph's Mercy Hospital 184
St. Mary's Hospital 350
Women's Hospital 173
FLINT
*Hurley Hospital 234
*Women's Hospital 63
GOODRICH
*Goodrich General Hospital 27
GRAND RAPIDS
Blodgett Memorial Hospital 150
Butterworth Hospital 270
St. Mary's Hospital 276
HANCOCK
*St. Joseph's Hospital 60
HIGHLAND PARK
Highland Park General Hospital 152
IRONWOOD
*Grand View Hospital 50
ISHPEMING
Ishpeming Hospital 46
JACKSON
Mercy Hospital 74
W. A. Foote Memorial Hospital 129
KALAMAZOO
Borgess Hospital 113
Bronson Methodist Hospital 125
New Borgess Hospital 118
LANSING
Edward W. Sparrow Hospital 115
St. Lawrence Hospital 125
MARQUETTE
*St. Luke's Hospital 65
MT. CLEMENS
St. Joseph's Hospital 100
MUSKEGON
Hackley Hospital 115
Mercy Hospital 84
Muskegon County Sanatorium 52
OWOSSO
Memorial Hospital 100
PONTIAC
*St. Joseph's Mercy Hospital 90
SAGINAW
Saginaw General Hospital 143
St. Mary's Hospital 186
*Woman's Hospital 62
WYANDOTTE
Wyandotte General Hospital 65

MINNESOTA

BRAINERD
St. Joseph's Hospital 70
CROOKSTON
*Bethesda Hospital 50
St. Vincent's Hospital 50
DULUTH
St. Luke's Hospital 286
St. Mary's Hospital 280
EVELETH
More Hospital 35
FERGUS FALLS
St. Luke's Hospital 50
GRACEVILLE
*Western Minnesota Hospital 39
LITTLE FALLS
St. Gabriel's Hospital 56
MANKATO
Immanual Hospital 75
St. Joseph's Hospital 140
MINNEAPOLIS
Abbott Hospital 106
Asbury Hospital 168
Eitel Hospital 134
Fairview Hospital 200
Hill Crest Surgical Hospital 72
Lutheran Deaconess Hospital 150
Maternity Hospital 141
Minneapolis General Hospital 634
Northwestern Hospital 200
St. Barnabas Hospital 166
St. Mary's Hospital 250
Shriners' Hospital for Crippled Children 62
Swedish Hospital 250
University Hospital 300
OAK TERRACE
Glen Lake Sanatorium 655
ROCHESTER
Colonial Hospital 250
Kahler Hospital 208
St. Mary's Hospital 500
Worrell Hospital 187
ST. CLOUD
St. Raphael's Hospital 84
ST. PAUL
Ancker Hospital 1050
Bethesda Hospital 124
Charles T. Miller Hospital 216
Gillette State Hospital for Crippled Children 250
Midway Hospital 115
Mounds Park Sanitarium 138
Northern Pacific Beneficial Association Hospital 160
St. John's Hospital 115
St. Joseph's Hospital 250
St. Luke's Hospital 185
St. Paul's Hospital 110
WADENA
*Wesley Hospital 50
WARREN
*Warren Hospital 52
WINONA
Winona General Hospital 139

MISSISSIPPI

AGRICULTURAL COLLEGE
J. Z. George Memorial Hospital 44
BILOXI
*Biloxi Hospital 38
BROOKHAVEN
*King's Daughters' Hospital 53
COLUMBIA
Columbia Hospital 50
CORINTH
McRae Hospital 70
GREENVILLE
King's Daughters' Hospital (White) 116
GULFPORT
King's Daughters' Hospital 125
HATTIESBURG
South Mississippi Infirmary 75
HOUSTON
Houston Hospital 50
JACKSON
Jackson Infirmary 75
Mississippi Baptist Hospital 83
Mississipi State Charity Hospital 100
LAUREL
*South Mississippi Charity Hospital 135
MERIDIAN
Dr. Hairston's Hospital 39
*Matty Hersee Hospital 110
Rush Infirmary 55
NATCHEZ
Natchez Charity Hospital 125
SANATORIUM
Mississippi State Sanatorium 480
TUPELO
Tupelo Hospital 35
VICKSBURG
Mississippi State Charity Hospital 115
Vicksburg Infirmary 50
Vicksburg Sanitarium and Crawford Street Hospital 100
WINONA
*Winona Infirmary 40

MISSOURI

BOONVILLE
*St. Joseph's Hospital 75
CAPE GIRARDEAU
St. Francis Hospital 75
COLUMBIA
Boone County Public Hospital 50
University Hospitals, University of Missouri 100
INDEPENDENCE
Independence Sanitarium 75
JEFFERSON CITY
St. Mary's Hospital 60
JOPLIN
*Freeman Hospital 75
St. John's Hospital 100
KANSAS CITY
Children's Mercy Hospital 135
Kansas City General Hospital 350
Kansas City General Hospital (Colored Division) 160
Research Hospital 231
St. Joseph's Hospital 193
St. Luke's Hospital 190
St. Mary's Hospital 183
Trinity Lutheran Hospital 125
Wheatley-Provident Hospital 65
MARYVILLE
St. Francis Hospital 75

ST. JOSEPH
- Missouri Methodist Hospital 200
- Noyes Hospital 90
- St. Joseph's Hospital 200

ST. LOUIS
- Alexian Brothers' Hospital 250
- Barnard Free Skin and Cancer Hospital 40
- Barnes Hospital 282
- Bethesda Hospital 115
- Christian Hospital 100
- Evangelical Deaconess Home and Hospital 126
- Frisco Employes' Hospital 100
- Jewish Hospital 301
- Lutheran Hospital 200
- Missouri Baptist Sanitarium 400
- Missouri Pacific Hospital 300
- St. Anthony's Hospital 200
- St. John's Hospital 341
- St. Louis Children's Hospital 143
- St. Louis City Hospital 900
- St. Louis City Hospital No. 2 314
- St. Louis Maternity Hospital 208
- St. Louis Mullanphy Hospital 125
- St. Luke's Hospital 216
- St. Mary's Infirmary 128
- St. Mary's Hospital 240
- Shriners' Hospital for Crippled Children 106

MONTANA

ANACONDA
- St. Ann's Hospital 73

BILLINGS
- St. Vincent's Hospital 200

BOZEMAN
- *Bozeman Deaconess Hospital 70

BUTTE
- Murray Hospital 116
- St. James Hospital 165

FORT BENTON
- *St. Clare Hospital 46

GLENDIVE
- Northern Pacific Beneficial Association Hospital 56

GREAT FALLS
- Columbus Hospital 150
- Montana Deaconess Hospital 125

HAVRE
- *Kennedy Deaconess Hospital 47
- *Sacred Heart Hospital 52

HELENA
- St. John's Hospital 55
- *St. Peter's Hospital 60

KALISPELL
- *Kalispell General Hospital 60

LEWISTOWN
- St. Joseph's Hospital 90

MILES CITY
- Holy Rosary Hospital 120

MISSOULA
- Northern Pacific Beneficial Association Hospital 75
- St. Patrick's Hospital 140

NEBRASKA

ALLIANCE
- St. Joseph's Hospital 65

COLUMBUS
- *St. Mary's Hospital 208

FALLS CITY
- Falls City Hospital 34

GRAND ISLAND
- St. Francis Hospital 150

LINCOLN
- Bryan Memorial Hospital 68
- Lincoln General Hospital 148
- *Nebraska Orthopedic Hospital 125
- *St. Elizabeth's Hospital 175

OMAHA
- Bishop Clarkson Memorial Hospital.... 90
- Creighton Memorial St. Joseph's Hospital 500
- Evangelical Covenant Hospital 85
- Immanuel Hospital 120
- Nebraska Methodist Episcopal Hospital and Deaconess Home 225
- St. Catherine's Hospital 165
- University of Nebraska Hospital 255
- Wise Memorial Hospital 73

SCOTTSBLUFF
- West Nebraska Methodist Hospital 65

NEVADA

EAST ELY
- Steptoe Valley Hospital 48

ELKO
- Elko General Hospital 52

RENO
- St. Mary's Hospital 50

NEW HAMPSHIRE

BERLIN
- Hospital St. Louis 60

CLAREMONT
- Claremont General Hospital 62

CONCORD
- Margaret Pillsbury General Hospital.... 123
- New Hampshire Memorial Hospital..... 85

DOVER
- Wentworth Hospital 79

GRASMERE
- Hillsborough County General Hospital.. 125

HANOVER
- Mary Hitchcock Memorial Hospital 140

KEENE
- Elliot Community Hospital 84

LACONIA
- Laconia Hospital 63

MANCHESTER
- Balch Hospital 30
- Elliot Hospital 90
- Hospital Notre-Dame De Lourdes 85
- Sacred Heart Hospital 85

NASHUA
- Nashua Memorial Hospital 90
- St. Joseph's Hospital 115

PORTSMOUTH
- Portsmouth Hospital 80

NEW JERSEY

ATLANTIC CITY
- Atlantic City Hospital 230

BAYONNE
- Bayonne Hospital and Dispensary..... 115

BRIDGETON
- *Bridgeton Hospital 94

CAMDEN
- Cooper Hospital 255
- West Jersey Homeopathic Hospital..... 278

EAST ORANGE
- Homeopathic Hospital of Essex County. 100

ELIZABETH
- Alexian Brothers' Hospital 125
- Elizabeth General Hospital and Dispensary 200
- St. Elizabeth Hospital 160

ENGLEWOOD
- Englewood Hospital 235

HACKENSACK
- Hackensack Hospital 225

HOBOKEN
- St. Mary's Hospital 450

IRVINGTON
- Irvington General Hospital 81

JERSEY CITY
- Christ Hospital 116
- Jersey City Hospital 600
- St. Francis Hospital 210

LONG BRANCH
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*Hoquiam General Hospital..... 97
LONGVIEW
*Longview Memorial Hospital..... 94

OLYMPIA
St. Peter's Hospital..... 95
SEATTLE
Children's Orthopedic Hospital..... 140
Columbus Hospital..... 200
*Minor Hospital..... 92
*Norwegian Hospital..... 40
Providence Hospital..... 380
St. Luke's Hospital..... 70
Seattle City Hospital..... 125
Seattle General Hospital 120
Swedish Hospital..... 236
Virginia Mason Hospital..... 100
SHELTON
*Shelton General Hospital..... 42
SPOKANE
Maria Beard Deaconess Hospital..... 192
Sacred Heart Hospital..... 330
St. Luke's Hospital..... 203
Shriners' Hospital for Crippled Children—Mobile Unit..... 25
TACOMA
Northern Pacific Beneficial Association Hospital 125
Pierce County Hospital..... 166
St. Joseph's Hospital..... 300
Tacoma General Hospital..... 272
WALLA WALLA
St. Mary's Hospital..... 100
WENATCHEE
Central Washington Deaconess Hospital 65
St. Anthony's Hospital..... 60
YAKIMA
St. Elizabeth's Hospital..... 157

WEST VIRGINIA

BECKLEY
Beckley Hospital..... 85
BLUEFIELD
Bluefield Sanitarium..... 94
St. Luke's Hospital..... 75
CHARLESTON
*Kanawha Valley Hospital..... 75
Mountain State Hospital..... 125
New Charleston General Hospital..... 150
CLARKSBURG
St. Mary's Hospital..... 175
ELKINS
Davis Memorial Hospital..... 54
Elkins City Hospital..... 50
FAIRMONT
Cook Hospital..... 110
Fairmount Hospital No. 3..... 80
GLENDALE
Reynolds Memorial Hospital..... 87
HUNTINGTON
*Chesapeake and Ohio Hospital..... 70
Guthrie Hospital..... 55
Kessler-Hatfield Hospital..... 150
LOGAN
Hatfield-Lawson Hospital..... 106
MARTINSBURG
City Hospital..... 75
McKENDREE
McKendree Hospital No. 2..... 60
MONTGOMERY
Coal Valley Hospital..... 65
MORGANTOWN
*Monongalia County Hospital..... 50
PARKERSBURG
*Camden-Clark Memorial Hospital..... 60
*St. Joseph's Hospital..... 100
PRINCETON
Memorial Hospital..... 45
RICHWOOD
*McClung Hospital..... 50
WELCH
Welch Hospital No. 1..... 115
WHEELING
Ohio Valley General Hospital..... 175
Wheeling Hospital..... 225

WISCONSIN

APPLETON
St. Elizabeth's Hospital 250
ASHLAND
*Ashland General Hospital..... 75
St. Joseph's Hospital..... 165
DODGEVILLE
St. Joseph's Hospital..... 61
EAU CLAIRE
Luther Hospital..... 115
FOND DU LAC
St. Agnes Hospital..... 250
GREEN BAY
St. Mary's Hospital..... 125
JANESVILLE
*Mercy Hospital..... 150
KENOSHA
Kenosha Hospital..... 180
St. Catharine's Hospital..... 56
LA CROSSE
Grandview Hospital..... 116
La Crosse Lutheran Hospital..... 148
*La Crosse Methodist Hospital..... 50
St. Francis Hospital..... 300
MADISON
Madison General Hospital..... 135
Methodist Hospital..... 125
St. Mary's Hospital..... 192
Wisconsin State General Hospital..... 450
MANITOWOC
Holy Family Hospital..... 100
MARSHFIELD
St. Joseph's Hospital..... 170
MILWAUKEE
Columbia Hospital..... 109
Evangelical Deaconess Hospital..... 183
*Hanover General Hospital..... 111
Marquette University Hospital..... 179
Milwaukee Children's Hospital..... 150
Milwaukee Hospital..... 230
Milwaukee Maternity and General Hospital 119
Misericordia Hospital..... 209
Mount Sinai Hospital 168
St. Joseph's Hospital..... 135
St. Mary's Hospital..... 202
Sacred Heart Sanitarium..... 280
NEENAH
Theda Clark Memorial Hospital..... 69
OSHKOSH
St. Mary's and Mercy Hospital..... 180
RACINE
St. Mary's Hospital..... 106
SUPERIOR
St. Mary's Hospital..... 108
WAUSAU
St. Mary's Hospital..... 136
Wausau Memorial Hospital..... 106
WAUWATOSA
Milwaukee County Hospital..... 308
Muirdale Sanatorium..... 350

WYOMING

CASPER
*Memorial Hospital of Natrona County.. 100
CHEYENNE
*Memorial Hospital of Laramie County.. 125
WHEATLAND
Wheatland General Hospital..... 69

CANAL ZONE

ANCON
Ancon Hospital 880

HAWAII

HILO
Hilo Memorial Hospital..... 125
HONOLULU
Leahi Home..... 450
Queen's Hospital..... 284
Shriners' Hospital for Crippled Children —Mobile Unit..... 28

PORTO RICO

SAN JUAN
Presbyterian Hospital 61

ALBERTA

BANFF
Brett Sanitarium..... 64
CALGARY
Calgary General Hospital..... 214
Holy Cross Hospital..... 200
CAMROSE
St. Mary's Hospital..... 50
DRUMHELLER
Drumheller Municipal Hospital No. 3.. 69
EDMONTON
Edmonton General Hospital..... 200
Misericordia Hospital..... 175
Royal Alexandra Hospital..... 350
University of Alberta Hospital..... 200
LAMONT
Lamont Public Hospital..... 65
LETHBRIDGE
Galt Hospital..... 81
MEDICINE HAT
Medicine Hat General Hospital..... 146
RED DEER
*Red Deer Municipal Hospital..... 39
VEGREVILLE
Vegreville General Hospital..... 40
KAMLOOPS
Royal Inland Hospital..... 130
NEW WESTMINSTER
*Royal Columbian Hospital..... 212
VANCOUVER
St. Paul's Hospital..... 300
Shaughnessy Military Hospital..... 300
Vancouver General Hospital.....1000
VICTORIA
Provincial Royal Jubilee Hospital..... 290
St. Joseph's Hospital..... 165

MANITOBA

BRANDON
Brandon General Hospital..... 234
ST. BONIFACE
St. Boniface Hospital..... 526
WINNIPEG
Children's Hospital..... 130
Grace Hospital..... 288
Misericordia Hospital..... 226
Muncipal Hospitals (King Edward Memorial and King George)..... 361
St. Joseph's Hospital..... 125
Shriners' Hospital for Crippled Children —Mobile Unit 25
Victoria Hospital..... 118
Winnipeg General Hospital..... 650

NEW BRUNSWICK

CAMPBELLTON
Hotel Dieu Hospital..... 75
RESTIGOUCHE AND BAY CHALEUR
Restigouche and Bay Chaleur Soldiers' Memorial Hospital..... 52
CHATHAM
Hotel Dieu Hospital..... 52
EAST ST. JOHN
St. John County Hospital..... 158
FREDERICTON
Victoria Public Hospital..... 80
MONCTON
Moncton Hospital..... 86
NEW CASTLE
Miramichi Hospital..... 50
ST. BASIL
*Hotel Dieu..... 48
ST. JOHN
General Public Hospital..... 190
Lancaster Hospital..... 80
St. John Infirmary..... 115
ST. STEPHEN
Chipman Memorial Hospital..... 60
WOODSTOCK
L. P. Fisher Memorial Hospital..... 43

NOVA SCOTIA

AMHERST
Highland View Hospital..... 70
ANTIGOSH
St. Martha's Hospital..... 125
GLACE BAY
Glace Bay General Hospital..... 90
St. Joseph's Hospital..... 113
HALIFAX
Children's Hospital..... 55
Grace Maternity Hospital..... 115
Halifax Infirmary..... 65
Victoria General Hospital..... 250
NEW GLASGOW
Aberdeen Hospital..... 80
NEW WATERFORD, C. B.
*New Waterford General Hospital..... 50
SYDNEY
Sydney City Hospital..... 74
YARMOUTH
Yarmouth Hospital..... 75

ONTARIO

BELLEVILLE
*Belleville General Hospital..... 100
BRANTFORD
Brantford General Hospital..... 200
BROCKVILLE
Brockville General Hospital..... 100
St. Vincent de Paul Hospital..... 100
CORNWALL
*Cornwall General Hospital..... 80
*Hotel Dieu Hospital..... 80
FORT WILLIAM
McKellar General Hospital..... 180
GALT
Galt Hospital..... 80
HAMILTON
Hamilton General Hospital..... 525
Mountain Sanatorium..... 390
St. Joseph's Hospital..... 160
KINGSTON
Hotel Dieu Hospital..... 200
Kingston General Hospital..... 315
KITCHENER
St. Mary's Hospital..... 96
LONDON
St. Joseph's Hospital..... 162
Victoria Hospital..... 400
NIAGARA FALLS
Niagara Falls General Hospital..... 68
OSHAWA
Oshawa General Hospital..... 80
OTTAWA
Ottawa Civic Hospital..... 660
Ottawa General Hospital..... 310
*Salvation Army Hospital..... 88
OWEN SOUND
General and Marine Hospital..... 74
PETERBORO
Nicholl's Hospital 90
St. Joseph's Hospital..... 85
PORT ARTHUR
St. Joseph's General Hospital..... 116
ST CATHARINES
St. Catharines' General Hospital 108
ST. THOMAS
Memorial Hospital..... 106
SAULT STE. MARIE
General Hospital..... 150
SMITHS FALLS
Smith's Falls Public Hospital 50
St. Francis General Hospital..... 50
STRATFORD
Stratford General Hospital..... 125
SUDBURY
St. Joseph's Hospital..... 125
TORONTO
Grace Hospital..... 155
Hospital for Sick Children..... 262

Riverdale Isolation Hospital..... 405
St. Michael's Hospital..... 600
Toronto General Hospital..... 750
Toronto Western Hospital..... 345
Wellesley Hospital..... 100
Women's College Hospital..... 80
WALKERVILLE
Metropolitan General Hospital..... 156
WINDSOR
Hotel Dieu of St. Joseph..... 150
Salvation Army Grace Hospital..... 124
WOODSTOCK
Woodstock Hospital..... 75

PRINCE EDWARD ISLAND

CHARLOTTETOWN
Charlottetown Hospital..... 80
Prince Edward Island Hospital..... 65
SUMMERSIDE
Prince County Hospital..... 58

QUEBEC

MONTREAL
Alexandra Hospital..... 175
Children's Memorial Hospital..... 130
Homeopathic Hospital..... 112
Hospital Sainte Justine, Pour Les Enfants 300
Hôtel Dieu de Saint Joseph..... 400
La Misericorde Hospital..... 380
L'Hopital Notre Dame..... 300
Montreal Foundling and Baby Hospital. 96
Montreal General Hospital, Central Division 400
Montreal General Hospital, Western Division 125
Royal Victoria-Montreal Maternity Hospital 808
Shriners' Hospital for Crippled Children 60
QUEBEC
Hospital Laval..... 260
Hotel Dieu du Precieux Sang..... 252
Jeffery Hale Hospital..... 125
*St. Francois d'Assise Hospital..... 100
SHERBROOKE
Hospital General St. Vincent de Paul... 300
Sherbrooke Hospital..... 89
THREE RIVERS
St. Joseph's Hospital..... 101

SASKATCHEWAN

CANORA
Hugh Waddell Memorial Hospital..... 47
HUMBOLDT
*St. Elizabeth's Hospital..... 52
MOOSE JAW
Moose Jaw General Hospital..... 120
Providence Hospital..... 88
NORTH BATTLEFORD
Notre Dame Hospital..... 53
PRINCE ALBERT
Holy Family Hospital..... 66
Victoria Hospital..... 71
REGINA
Regina General Hospital..... 250
Regina Grey Nuns' Hospital..... 208
SASKATOON
City Hospital..... 220
St. Paul's Hospital..... 250
SWIFT CURRENT
*Swift Current General Hospital..... 50

ARMY

DENVER, COLORADO
Fitzsimons General Hospital.....1848
SAN FRANCISCO, CALIFORNIA
Letterman General Hospital..... 750
FORT SAM HOUSTON, TEXAS
Station Hospital..... 800
WASHINGTON, DISTRICT OF COLUMBIA
Walter Reed General Hospital.....1500
EL PASO, TEXAS
William Beaumont Hospital..... 403

NAVY

MARE ISLAND, CALIFORNIA
United States Naval Hospital 597
SAN DIEGO, CALIFORNIA
United States Naval Hospital..... 530
SAN PEDRO, CALIFORNIA
United States Naval Relief Ship..... 567
WASHINGTON, DISTRICT OF COLUMBIA
United States Naval Hospital..... 450
GREAT LAKES, ILLINOIS
United States Naval Hospital..... 800
CHELSEA, MASSACHUSETTS
United States Naval Hospital..... 628
NEW YORK, NEW YORK
United States Naval Hospital..... 847
LEAGUE ISLAND, PHILADELPHIA, PA.
United States Naval Hospital..... 500
NORFOLK, VIRGINIA
United States Naval Hospital..... 816

PUBLIC HEALTH

BALTIMORE, MARYLAND
United States Marine Hospital..... 167
BOSTON, MASSACHUSETTS
United States Marine Hospital 167
BUFALO, NEW YORK
United States Marine Hospital..... 97
CARVILLE, LOUISIANA
United States Marine Hospital..... 372
CHICAGO, ILLINOIS
United States Marine Hospital..... 127
CLEVELAND, OHIO
United States Marine Hospital..... 83
DETROIT, MICHIGAN
United States Marine Hospital..... 80
ELLIS ISLAND, NEW YORK
United States Marine Hospital..... 452
EVANSVILLE, INDIANA
United States Marine Hospital..... 54
FORT STANTON, NEW MEXICO
United States Marine Hospital..... 250
KEY WEST FLORIDA
United States Marine Hospital..... 40
LOUISVILLE, KENTUCKY
United States Marine Hospital..... 67
MEMPHIS, TENNESSEE
United States Marine Hospital..... 65
MOBILE, ALABAMA
United States Marine Hospital..... 90
NEW ORLEANS, LOUISIANA
United States Marine Hospital..... 250
NORFOLK, VIRGINIA
United States Marine Hospital..... 217
PITTSBURGH, PENNSYLVANIA
United States Marine Hospital..... 60
PORTLAND, MAINE
United States Marine Hospital..... 64
PORT TOWNSEND, WASHINGTON
United States Marine Hospital..... 100
ST. LOUIS, MISSOURI
United States Marine Hospital..... 70
SAN FRANCISCO, CALIFORNIA
United States Marine Hospital..... 320
SAVANNAH, GEORGIA
United States Marine Hospital..... 146
STAPLETON, NEW YORK
United States Marine Hospital..... 288
VINEYARD HAVEN, MASSACHUSETTS
United States Marine Hospital..... 24

VETERANS BUREAU

ALGIERS, LOUISIANA
Veterans Hospital..... 383
AMERICAN LAKE, WASHINGTON
Veterans Hospital..... 392
ASPINWALL, PENNSYLVANIA
Veterans Hospital..... 228
ATLANTA, GEORGIA
Veterans Hospital..... 85
AUGUSTA, GEORGIA
Veterans Hospital..... 593
BEDFORD, MASSACHUSETTS
Veterans Hospital..... 480
BOISE, IDAHO
Veterans Hospital..... 235
BRONX, NEW YORK
Veterans Hospital..... 900
CAMP CUSTER, MICHIGAN
Veterans Hospital..... 575
CASTLE POINT, NEW YORK
Veterans Hospital..... 406
CHILLICOTHE, OHIO
Veterans Hospital..... 464
DWIGHT, ILLINOIS
Veterans Hospital..... 225
EXCELSIOR SPRINGS, MISSOURI
Veterans Hospital..... 125
FORT BAYARD, NEW MEXICO
Veterans Hospital..... 450
FORT HARRISON, MONTANA
Veterans Hospital..... 325
FORT LYON, COLORADO
Veterans Hospital..... 500
GULFPORT, MISSISSIPPI
Veterans Hospital..... 425
JEFFERSON BARRACKS, MISSOURI
Veterans Hospital..... 343
KANSAS CITY, MISSOURI
Veterans Hospital..... 200
KNOXVILLE, IOWA
Veterans Hospital..... 585
LAKE CITY, FLORIDA
Veterans Hospital..... 252
LEGION, TEXAS
Veterans Hospital..... 480
LIVERMORE, CALIFORNIA
Veterans Hospital..... 306
MAYWOOD, ILLINOIS
Edward Hines Junior Hospital.....1007
MEMPHIS, TENNESSEE
Veterans Hospital..... 325
MINNEAPOLIS, MINN.—FT. SNELLING
Veterans Hospital..... 557
MUSKOGEE, OKLAHOMA
Veterans Hospital..... 355
NORTHAMPTON, MASSACHUSETTS
Veterans Hospital..... 515
NORTH CHICAGO, ILLINOIS
Veterans Hospital..... 700
NORTH LITTLE ROCK, ARKANSAS
Veterans Hospital..... 648
NORTHPORT, L. I., NEW YORK
Veterans Hospital.....1000
OTEEN, NORTH CAROLINA
Veterans Hospital..... 742
OUTWOOD, KENTUCKY
Veterans Hospital..... 375
PALO ALTO, CALIFORNIA
Veterans Hospital.....1010
PERRY POINT, MARYLAND
Veterans Hospital..... 968
PHILADELPHIA, PENNSYLVANIA
Veterans Hospital..... 416
PORTLAND, OREGON
Veterans Hospital..... 145
RUTLAND, MASSACHUSETTS
Veterans Hospital..... 420
SAN FERNANDO, CALIFORNIA
Veterans Hospital..... 230
SHERIDAN, WYOMING
Veterans Hospital..... 438
ST. CLOUD, MINNESOTA
Veterans Hospital..... 340
SUNMOUNT, NEW YORK
Veterans Hospital..... 365
TACOMA, WASHINGTON
Veterans Hospital..... 300
TUCSON, ARIZONA
Veterans Hospital..... 252
TUSKEGEE, ALABAMA
Veterans Hospital..... 658
WALLA WALLA, WASHINGTON
Veterans Hospital..... 250
WASHINGTON, DISTRICT OF COLUMBIA
Veterans Hospital..... 235
WAUKESHA, WISCONSIN
Veterans Hospital..... 250
WHIPPLE BARRACKS, ARIZONA
Veterans Hospital..... 600

NATIONAL SANITARIUMS

SOLDIERS' HOME, CALIFORNIA
Pacific Branch, National Home..... 250
DANVILLE, ILLINOIS
Danville Branch, National Home..... 263
MARION, INDIANA
Marion National Sanatorium.....1092
NATIONAL SOLDIERS' HOME, MAINE
Eastern Branch, National Home..... 341
NATIONAL MILITARY HOME, KANSAS
Western Branch, National Home..... 392
DAYTON, OHIO
Central Branch, National Military Home 1165
NATIONAL SANITARIUM, TENNESSEE
Mountain Branch, National Home.....1144
HOT SPRINGS, SOUTH DAKOTA
Battle Mountain Sanitarium..... 544
NATIONAL SOLDIERS' HOME, VIRGINIA
Southern Branch, National Home..... 668
NATIONAL HOME, WISCONSIN
Northwestern Branch, National Home.. 941

The following hospitals have been awarded honorable mention and are included in the list of Approved Hospitals for 1928.

AUSTRALIA

NEW SOUTH WALES
Lewisham Hospital, Sydney
Newcastle Hospital, Newcastle
Royal Alexandra Hospital for Children, Camperdown, Sydney
Royal North Sydney Hospital, Sydney
Royal Prince Alfred Hospital, Camperdown, Sydney
St. Vincent's Hospital, Sydney
Sydney Hospital, Sydney
VICTORIA
Alfred Hospital, Melbourne
Austin Hospital, Melbourne
Children's Hospital, Melbourne
Melbourne Hospital, Melbourne
Queen's Memorial Hospital, Melbourne
St. Vincent's Hospital, Melbourne
Women's Hospital, Melbourne

CHINA

Peking Union Medical College Hospital, Peking

FRANCE

American Hospital, Paris

NEW ZEALAND

Auckland Hospital, Auckland
Cashmere Sanatorium, Christchurch
Christchurch Hospital, Christchurch
Dunedin Hospital, Dunedin
Wellington Hospital, Wellington

NEWFOUNDLAND

Notre Dame Bay Memorial Hospital, Twillingate
St. Anthony Hospital, St. Anthony

URUGUAY

Gynecological Hospital (Pereira Rossell), Montevideo
Maternity Hospital (Pereira Rossell), Montevideo

YOUR EVERYDAY PROBLEMS

A department devoted to the informal discussion of problems arising in the everyday life of the hospital superintendent.

[No attempt has been made to offer final conclusions relative to the questions considered in this department. THE MODERN HOSPITAL will gladly welcome further comment by its readers on any of these problems, or the presentation of other queries for discussion in later issues.—Editor.]

How Can Interns Be Brought to Meet Their Chiefs More Promptly?

It is irritating to a visiting physician when he reaches the hospital to be unable to locate his intern promptly. Moreover, to make his rounds properly unless accompanied by his resident officer is certainly a difficult and exasperating task for the chief. In some hospitals when the visiting physician registers "in" at the front door, an electric bulb is lit in his wards announcing that he is on the way to make rounds. But this system is not always satisfactory because the intern may be legitimately busy elsewhere in the institution and therefore will not promptly receive the message that his chief has arrived.

Sometimes a clerk in the office of the hospital is instructed to locate the intern when he observes the visiting physician entering the institution.

In some institutions a call system controlled by the telephone operator satisfactorily locates the intern before his chief reaches the ward.

The methodical visiting physician has little difficulty in locating the intern because he visits the hospital at a regular hour and the intern soon learns to be in his ward at that time. The physician who comes at mealtimes is frequently irritated because his intern is slow in arriving, but he should not forget that perhaps a part of this delay is his own fault.

The intern should be impressed with the fact that it is his first duty to be on hand when his chief makes his visits and that to allow anything of a personal nature to interfere with spending as much time as possible with the visiting physician is unwise. An honest desire on the part of the intern always to meet his chief will usually solve this problem.

How Can Consultations Be Promptly Secured?

This is one of the troublesome problems that occur in the daily life of almost every hospital administrator. Delay in securing consultations is not always the fault of any one individual. The physician in making rounds may request his intern to arrange for a consultation with a fellow staff member or with a physician from another hospital service. Because the consultant may have made his rounds for the day or may be absent from the city, or because the intern has failed to make the proper arrangements the consultation is unduly delayed.

On the other hand, an institution may possess a proper consultation form and routine, and yet through a combination of circumstances the patient does not receive promptly the benefit of the combined advice of the hospital's physicians that he deserves.

As to practical measures, some hospitals at the point at which physicians enter the institution have placed an electric registration board in which slots have been inserted for the reception of telephone messages or consultation requests from other members of the staff. Again these consultation forms may be placed upon a board in the visiting physicians' lounging room or office, and the physician may be encouraged to form the habit of always going there first to learn whether his services are desired by any of his colleagues in the institution. Also, consultation requests may be sent to the department upon which the desired consultant is a visitant. When this is done the head nurse in charge is responsible for bringing to the attention of the physician the fact that a consultation request has arrived for him.

Whatever the system employed, it should be simple, efficient and time-saving, and should provide for the holding of true consultations, which consist in the presence of both physicians concerned. Where emergency consultations are required the physician should be summoned by telephone and should respond promptly. No system will work properly unless the persons concerned are earnest and energetic in carrying out its provisions.

How Can Unnecessary X-Ray Work Be Avoided?

Hospital executives are everywhere asking themselves this question. They are justly alarmed at the apparently rising cost of the x-ray department.

It is a sad but true commentary on the trend of modern medicine that physicians are more and more depending upon laboratories and other specialty diagnostic efforts in the hospital to make their diagnoses. Physicians, young and old, moreover, are too ready to refer cases to the x-ray laboratory for diagnosis when an estimate of the patient's condition could have been accurately made through the use of the ordinary methods of physical examination.

There is, however, a danger that if too strict rules are enacted in regard to the number and types of cases that may be referred for free x-ray study, patients who actually require this work may be slighted. It is therefore not possible for rules to be passed that will always differentiate the necessary from the unnecessary case. Good judgment and proper consideration for the economic conduct of the hospital must frequently be the deciding factors.

Nor is it always possible to regulate this matter, as has been suggested in a recent issue of THE MODERN HOSPITAL, by requiring the x-ray request form to be countersigned by a paid resident physician. This officer is likely to make this act a perfunctory one, since he

knows nothing concerning the needs of the individual case. Cases referred from the dispensary constitute not a small proportion of the patients sent to the x-ray laboratory for free study. The social investigation of those in charge of the dispensary, should reveal whether the particular patient is able to pay an x-ray fee.

The problem as it affects the semiprivate or private room service of the hospital is not so disturbing because much of the revenue earned by the x-ray department comes from these sources. On the other hand, the hospital should make certain that unnecessary work is not done even though the patient is abundantly able to pay for his x-ray studies. Unless a check upon the x-ray work prescribed for this type of patient is made, injustice will be worked both to the patient and to the roentgen-ray laboratory.

After all the answer to this problem lies in the hands of the visiting staff whose duty it is to instruct young physicians in the matter of independently making a diagnosis in the average case, and only occasionally looking to the x-ray laboratory for confirmation. These latter remarks, while applying particularly to the medical division, refer also to certain of the surgical specialties. The proper treatment of fractures, however, demands that frequent access to the x-ray department be available.

How Can the Dietetic and Occupational Therapy Departments Aid in the Work of the Prenatal Clinic?

Sometime ago it was stated in THE MODERN HOSPITAL that these two hospital departments should be brought closely in contact with the out-patient work of the prenatal clinic. It is necessary for the expectant mother to have some clear-cut ideas relative to the type of food that she should consume before her baby arrives. She should also be taught how to prepare the formulae and other types of infant food. Upon her visit to the prenatal clinic much useful information can be imparted by the hospital dietitian to the expectant mother. This may be done while she is waiting to be examined or through the medium of regularly conducted dietetic classes at which food is prepared by the patient herself. Sometimes as a reward for the interest she has shown she is allowed to consume this food for her lunch.

Practical work of this sort may be life-saving later on. The washing and sterilizing of bottles and nipples and other similar lessons are easily taught at this time.

The occupational therapist can also perform a useful service in this clinic. Instruction in the preparation of the proper clothes for the baby and mother offers the occupational therapist ample opportunity for rendering a real service to these patients. Sometimes the hospital furnishes the material and presents the garments thus made to the patient when she has need for them.

The correlation of these two departments with the prenatal clinic has many possibilities for good.

Should the Hospital Have a Museum of Health?

A superintendent who is desirous of doing everything within his power to enable his hospital to perform both a preventive and curative community function has asked this question. It has been suggested that there should be placed on permanent display, in the corridor of the hospital, one or more showcases in which charts and other graphic illustrations of the nature and methods of prevention of disease might be displayed. In such an exhibit, graphs depicting the instance of tuberculosis, typhoid fever and the contagions; photographs of proper sanitary living surroundings; information concerning the danger of flies and infected drinking water; photographs and wax representations of malignancy, with information as to its early recognition, might find a useful place.

In other words, without taking advantage of the element of fear, the hospital may graphically depict to those who visit its dispensary, as well as to visitors to its inpatients, some public health principles that should be useful in any campaign bearing on the prevention of sickness.

There is much to be commended in such a step. The hospital must be a preventorium as well as a place of cure. Good taste and judgment, of course, should be employed in preparing such an exhibit. Gruesome details, unless they be necessary to the teaching of the desired lesson, should be omitted. Charts should not be made too complicated. The horrors of disease should not be exaggerated. There need be no suggestion of the dime museum in such an exhibit.

THE MODERN HOSPITAL believes that a graphic presentation of the subject of the prevention of disease, insofar as the lay public is concerned, is often much more effective than is casual or even careful comment on this subject by physicians, nurses and others. Would it not be possible for each hospital to have one dispensary day a week set aside for medical education, and would not first-hand health information thus imparted to patients be much more easily understood, with less danger of distortion, than facts learned from reading more or less reliable magazines and newspaper articles?

How Can Air Beds Be Repaired?

This question was asked THE MODERN HOSPITAL by a superintendent of an institution who was apparently much disturbed because of the large original cost of air beds, and the frequency with which they are punctured with safety pins or become defective from some other cause. The price of air beds ranges from twenty-five dollars upward. Many of these mattresses are made of gutta-percha interwoven with fabric. Over this is sometimes placed a canvas cover to protect the mattress. In this type of mattress it is difficult to learn the source of the leak, and just as hard to vulcanize or in some other way repair a puncture. Some firms offer a service that supplies inspection and expert advice as to whether repair is either possible or economical. Recently eight air mattresses were sent by a hospital executive to a local supply house for advice as to the possibility of repairing them. They cost thirty-five dollars each. Five were found to be worth salvaging at a cost of nine dollars apiece.

Air mattresses made of pure rubber with a canvas covering are more easily repaired. Here vulcanizing can be done in the same manner as is employed in the repair of automobile inner tubes. Leaking air valves are rather easy to remedy.

Nurses should be informed as to the difficulty in repairing a pin puncture and cautioned about the ill effects of oils or acids that are brought in contact with rubber. An ingenious ambulance driver will often detect the location of the leak by immersing the mattress little by little in water.

Unless some local facility for the repair of air mattresses is available it is wise for the hospital to seek the advice of a reliable hospital supply house as to the advisability of repairing these necessary adjuncts to hospital work.

NEWS OF THE MONTH

Record Number of Hospital Heads Attend A. C. of S. Meeting

WITH an attendance of hospital administrators larger than ever before in its history and with a program replete with topics of more than ordinary interest to hospital people, the eleventh annual Hospital Standardization Conference of the American College of Surgeons held its meetings at the Copley Plaza Hotel, Boston, October 8, 9, 10 and 11. At the first meeting called to order by Dr. George David Stewart, president, American College of Surgeons, there were in attendance more than a thousand hospital people.

Dr. C. W. Munger, who conducted a clinic on hospital case records.

The first speaker on the program was Dr. Frederic A. Washburn, director, Massachusetts General Hospital, who gave the address of welcome. Dr. Washburn told of the many fine hospitals in and around Boston, the facilities for teaching and the general hospitalization of the community. Dr. Stewart next introduced Dr. Franklin H. Martin, director general, American College of Surgeons, who spoke on the "Health Inventorium in Approved Hospitals." Dr. Martin told of the work that had been done in furthering the work of the inventorium and the work that was contemplated.

He was followed by Dr. Malcolm T. MacEachern, associate director, American College of Surgeons, who presented the annual report of the Hospital Standardization Committee and announced the approved list for the coming year. Dr. MacEachern's report was in printed form and was distributed to those present. He also had shown on a screen a series of charts with which was depicted the advancement that is being made in the betterment of hospitals throughout the country.

Of interest to those present was the paper presented by Dr. W. S. Rankin, director, Duke Endowment. Dr. Rankin's subject was "The Influence and Interest of the Duke Endowment in Hospital Standardization." He outlined the methods that had been formulated by the Duke Endowment, the plan that was being followed in the establishment of hospitals and the work—particularly the preparation of specifications and plans for the construction work—that had already taken place.

The last paper was presented by Dr. May Ayres Burgess, who in a limited space of time presented a partial report of what the committee on the Grading of Nursing Schools was doing. Dr. Burgess also had charts in which was graphically shown the work that is being done by her committee. An imposing list of celebrities discussed the papers: Dr. Charles F. Wilinsky, director, Beth Israel Hospital, Boston; Dr. William Darrach, Columbia University, New York City; Mary M. Roberts, editor, the *American Journal of Nursing*, New York and Dr. Charles H. Mayo, the Mayo Clinic, Rochester, Minn.

Paul H. Fesler, who presided at the small hospital session.

News of the Month

Dr. Wilinsky discussed the standardization report while Dr. Darrach, Miss Roberts and Dr. Mayo discussed the report made by Dr. Burgess.

On Monday afternoon Dr. Stewart again presided and presented Dr. Henry A. Christian, Hersey professor, Harvard University, who read a paper on "Missed Pedagogic Opportunities Incident to the Usual Organization of the Resident Medical Staff of a Hospital." Dr. Christian gave his views on intern and resident training and work and contributed several definite and well worked out plans for the improvement of this work.

The second speaker on the afternoon's program was Dr. Willard C. Rappleye, director of study, Commission on Medical Education. Dr. Rappleye gave many interesting figures on the number of students now entering medicine, what might be expected in the future, the number of those entering the specialties and the number studying general medicine, what steps were being taken in medical schools to bring about better means of selecting students and other pertinent subjects.

Dr. E. Murray Blair, Vancouver, B. C., was the third speaker and his subject was "Experimental Science *Versus* Imitative Art in Medicine." Dr. Blair compared the two schools of teaching pointing out the advantages of both and also bringing in a note of warning for the exclusive use of either method of instruction. Due to illness Frank E. Chapman, director, Mt. Sinai Hospital, Cleveland, Ohio, was unable to be at the meeting and present his paper on the subject, "What Is the Role of the Hospital Administrator?"

Many Hospital Problems Discussed

Dr. C. G. Parnall, director, Rochester General Hospital, was the last speaker on the program with the subject, "Visual Methods in Conducting the Staff Conference." Many new ideas were presented by Dr. Parnall in his talk and he demonstrated by illustrations just how the visual method was used in Rochester. Dr. Charles H. Young, director, Maine General Hospital, Portland, Me., and Dr. John T. Burrus, High Point, N. C., led the discussion.

Dr. Joseph B. Howland, superintendent, Peter Bent Brigham Hospital, Boston, presided at the first meeting on Tuesday at which time the following subjects were discussed: "The Educational and Economic Value of the Out-Patient Department in a General Hospital," "Selective Economic Basis for Out-Patient Service," "Minimum Standards for the Hospital Social Service Department," "The Operation of a Physical Therapy Department From the Scientific and Economic Standpoints," and a general discussion of all the subjects led by Dr. Michael M. Davis, New York City, and Dr. Frank Granger, Boston.

The program for Tuesday afternoon was conducted by Dr. C. W. Munger, director, Grasslands Hospital, Valhalla, N. Y., and was in the form of a clinic into case records in a hospital. Every phase of case records was gone into by authorities on the subject and much good was gained by those who attended this meeting. The following speakers were programmed: Dr. Ernest Leroi Hunt, director, surgical services, Worcester General Hospital; Dr. Harold W. Hershey, superintendent, Bridgeport General Hospital, Bridgeport, Conn.; Grace W. Myers, librarian emeritus, Massachusetts General Hospital, Boston; Clara A. Doolittle, historian, Griffin Hospital, Derby, Conn.; Enna C. Black, record librarian, Grace Hospital, New Haven, Conn.; Dr. E. W. Williamson, chief field representative, American College of Surgeons; Dr. R. C. Buerki, superintendent, State of Wisconsin Hospital, Madison, Wis.; Edith M. Robbins, chief record librarian, Peter Bent Brigham Hospital, Boston, and Genevieve Chase, record librarian, Massachusetts General Hospital, Boston.

Dr. Lewis A. Sexton, superintendent, Hartford Hospital, presided at the open forum that was conducted on Wednesday. Eight questions that had been especially chosen were discussed and the session proved to be the most interesting that was held. Professional efficiency, surgical efficiency, medical staff organization, follow-up work, appraisal of nursing service and several other topics called forth the views of the hospital administrators.

On Wednesday afternoon Dr. George S. Derby, professor of opthalmology, Harvard University, presided at a meeting that dealt solely with ophthalmological, rhinological and oto-laryngological problems. Department heads, those interested especially in nose and throat hospitals and specialists in these diseases were in attendance.

Mr. Fesler Conducts Small Hospital Session

On Wednesday afternoon Paul Fesler, superintendent, University of Minnesota Hospital, presided at the small hospital meeting. Mr. Fesler, by his excellent manner of presiding, put much interest into the meeting and those on the program presented excellent papers. The small hospital was described as one with from twenty-five to a hundred beds and the problems discussed were all of a practical nature. General discussion of the papers was led by Dr. T. E. Reeks, superintendent, New Britain Hospital, New Britain, Conn., Ruth Brown, superintendent, Wyandotte Hospital, Wyandotte, Mich., and Dr. W. S. Rankin, director, Duke Endowment.

The last session of the conference was held on Thursday morning with Fuller F. Barnes, president, board of directors, Bristol Hospital, Bristol, Conn., presiding. A paper, "The Care of Obstetrical Patients in General Hospitals," was presented by Dr. James F. Taylor, Sioux City, Iowa. Other papers presented included: "The Care of the Convalescent Patient," Dr. John Bryant, Boston; "The Responsibility of the Hospital Administration in the Care of Fractures," Dr. Charles L. Scudder, Boston; "The Responsibility of the Administration in the Care of the Injured," Dr. Frederic A. Besley, Waukegan, Ill.; "Possibility of Postoperative Infections From Contamination of Water in Hospitals," Dr. Arnold H. Kegel, commissioner of health, Chicago; "Beauty in the Hospital," the Rev. C. B. Moulinier, executive director, Catholic Hospital Association. General discussion was ably handled by Thomas F. Dawkins, superintendent, United Hospital, Port Chester, and Boris Fingerhood, superintendent, United Israel Zion Hospital, Brooklyn.

Many of the hospitals of Boston were visited by those attending the meetings and trips were made to various medical centers each day. The exhibit, held at the Statler Hotel, proved to be of interest to the hospital superintendents as well as to the surgeons who were attending the general meetings of the American College of Surgeons.

News of the Month

Occupational Therapists Offer Prizes for Wall Hanging

The New York State Occupational Therapy Association is offering two prizes for the best design for a wall hanging to be submitted to the prize contest committee on or before April 15, 1929. A first prize of $25 and a second prize of $15 will be awarded. All entries should be addressed to Susan Colston Wilson, Brooklyn State Hospital, 681 Clarkson Ave., Brooklyn, N. Y.

Contestants need not necessarily be members of the state association but any person or group professionally engaged in occupational therapy may compete either individually or as a group. The entry will consist of a finished wall hanging and also a full sized line drawing of the hanging in waterproof ink on architect's tracing cloth accompanied by a color key. The hanging may be executed in any medium using stitchery, applique, block-printing, batik, tapestry or a combination of any of these. The design must be original with the contestant. The finished wall hanging may be made by patients under the direction of the contestant.

All entries will be exhibited and judged at the annual meeting of the state association in May, 1929.

Last Unit of Children's Hospital Is Completed

The last of the new buildings which doubles the capacity of the Children's Hospital, Buffalo, N. Y., has been opened for use, completing a $1,000,000 program of additions to the hospital facilities, according to *Hospital Topics*. The newest building is the out-patient department.

The first portion of the new work to be completed was the power plant. The second building to be ready for use was the nurses' residence with a hundred single rooms for student nurses, nurse supervisors and women interns.

The third of the new buildings, the maternity department, was opened a few weeks ago. It has forty private rooms, a solarium, delivery suite, nurseries, kitchens and various smaller rooms.

The out-patient department examines sometimes more than a hundred children a day. Laboratories are on the first floor of the building, the orthopedic clinics on the second, the receiving ward is on the third floor while the fourth floor is devoted to heliotherapy.

Eight Chicago Hospitals Benefit by Will of Mrs. Blackstone

Presbyterian Hospital and St. Luke's Hospital, Chicago, are each to receive $100,000 under the will of Mrs. Isabella F. Blackstone who died September 30 at the age of ninety years.

The Chicago Lying-In Hospital, the Children's Memorial Hospital and the United Charities are each bequeathed $50,000. The Provident Hospital and Training School, Chicago Home for Convalescent Women and Children and the Home for Destitute Crippled Children will receive $25,000 each. The Chicago Home for Incurables was left $20,000, and the William W. Backus Hospital, Norwich, Conn., $25,000.

Mrs. Blackstone, who was the widow of Timothy B. Blackstone, pioneer Chicago business man and one time president of the Chicago and Alton Railroad, left an estate valued at $2,020,000, of which $1,105,000 was bequeathed to charitable, educational and religious institutions.

Large Appropriations Made for New Veterans' Hospitals

General Frank T. Hines, director, the United States Veterans' Bureau, stated recently that in addition to the hospitals operated by the Veterans' Bureau, some 8,400 beds are reserved for beneficiaries of the United States Veterans' Bureau in hospitals operated by other government agencies. These beds plus those beds available in Veterans' Bureau hospitals constituted on June 30, 1928, a grand total of 30,525.

Since March 13, 1919, General Hines said, Congress has authorized to be appropriated the sum of $76,500,000 for additional hospital construction, of which amount $68,500,000 has actually been appropriated.

According to General Hines, construction work is in progress on three new projects, including a 261-bed hospital at Tucson, Ariz., a 300-bed hospital at Portland, Ore., to be completed in November, 1928; and the erection of facilities at Fargo, N. D., to house the regional office and to provide fifty-seven hospital beds for observation cases for those patients requiring but brief hospitalization, scheduled for completion in January, 1929. There remains but one other project to complete the program comprehended under the $10,000,000 authorization for hospital construction approved March 3, 1925, that being the new 400-bed hospital at Alexandria, La., now under contract.

Babies' Hospital in North Carolina Is Rebuilt

The need for facilities for caring for sick babies in North Carolina was increased when the Babies' Hospital at Wrightsville was destroyed by fire last year. Undaunted by the catastrophe, work was immediately started on a new building, and this has recently been completed.

The new Babies' Hospital at Wrightsville is fireproof and fully equipped for pediatric work. There are large screened porches that overlook the ocean and two open roofs for sun baths. The building was financed by public contributions and is open to all physicians for the care of sick babies.

The nursing staff is made up of nurses who have had pediatric training and arrangements have been made to give a graduate course of four months for those who desire special training.

News of the Month

New Veterans' Hospital Opened —Others Planned

Claims for death and disability compensation have been filed on behalf of practically 20 per cent of the men who served in the armed forces of the United States during the World War, and over 540,000 claims have been allowed, the value of which exceeds $1,234,000,000, declared the director of the Veterans' Bureau, Brigadier General Frank T. Hines, in a speech at the opening of the Veterans' Bureau Hospital at Bedford, Mass.

General Hines said there are now fifty hospitals operated by the Veterans' Bureau with a total bed capacity of 22,112, and that during the last year there has been a net increase in beds in bureau hospitals of 1,302.

The Veterans' Hospital at Bedford cost approximately $1,642,000 to construct, including the purchase of the land. The hospital reservation comprises 276 acres, and the hospital has a normal capacity of 350 beds. It was initially opened for patients on July 17, 1923, and there are now being hospitalized 297 patients. General Hines pointed out that the newest ideas in construction have been incorporated in this plant, and that funds for additional facilities were included in the $15,000,000 authorization of new hospital construction, approved May 23, 1928. Plans for this work are under way and include a 137-bed acute building, a shop building and two duplex officers' quarters, the construction to cost approximately $330,000.

Pennsylvania Supreme Court Gives Ruling on Compensation Cases

A recent decision by the supreme court of Pennsylvania affecting compensation cases sets forth that "hospital treatment, services and supplies" furnished during the first thirty days after disability begins is unlimited, and that a ruling by the Workmen's Compensation Board attempting to limit such liability to one hundred dollars is void.

A further interpretation of these points is made by William A. Schnader, special deputy attorney general, as follows:

"The ward rate charged to patients should be, as nearly as practicable, the actual cost of the service rendered.

"In compensation cases these institutions, state hospitals, are entitled to collect from employers the cost of surgical, medical and hospital services and medicines and supplies furnished to injured employees, notwithstanding the fact that the injured employees would be entitled to free service, if their cases did not come within the provisions of the Workmen's Compensation laws.

"With regard to the amounts collectible by the hospitals, the situation is as follows:

"During the first thirty days after disability begins the employer should furnish reasonable surgical and medical services, medicines and supplies, as and when needed. The cost of such services, medicines and supplies shall not exceed one hundred dollars. In addition to the above services, medicines and supplies, hospital treatment, services and supplies shall be furnished by the employer for the said period of thirty days. The cost for such hospital treatment, service and supplies shall not in any case exceed the prevailing charge in the hospital.

"Accordingly in computing the amounts of these charges the hospitals should include all items which they would charge to paying ward patients for similar services. These items would include the full ward rate plus charges for services of physicians or surgeons on the hospital staff, fees for the use of the operating room and of x-ray apparatus, if such charges are customarily made as a part of the cost of treating paying ward patients. The employer cannot, however, be required to pay any item which would not be charged against the patient if he were in the hospital as a paying ward patient.

"If the hospital is required to furnish care and services beyond the period during which the employer is required to furnish such services, the hospital may charge the injured person with the cost of treatment unless the injured person is within the classes of persons who are entitled to free service in which case a charge could not properly be made under any circumstances."

To Vote on $50,000,000 Bond Issue for Hospitals

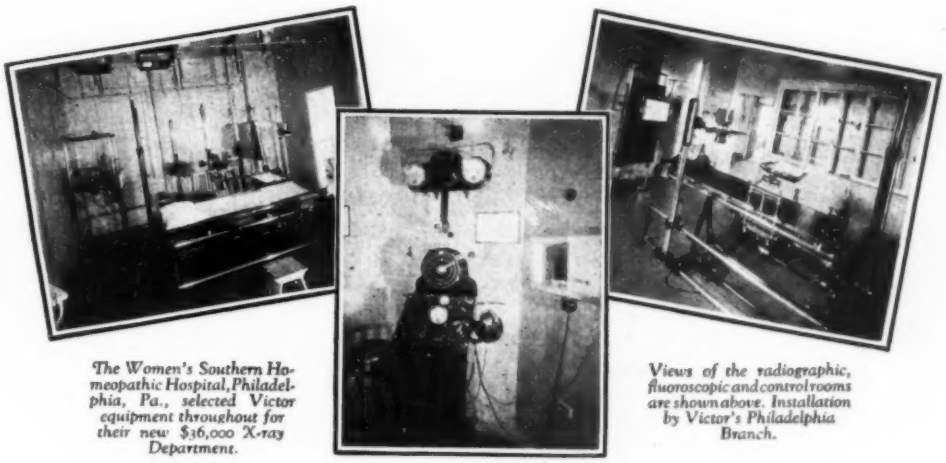
It is reported in a recent issue of the *Journal of the American Medical Association* that the eight mental hospitals, run by the state of Pennsylvania, caring for an average daily population of 11,166 patients are overcrowded, and that some lack facilities to give modern care to the patients.

The report says that in five of the hospitals conditions are so bad that the patients sleep in hallways, attics and basements, and that the space needed during the day for living quarters is crowded with beds. Many of these patients need rest and quiet more than anything else, but they are huddled together in rooms too small for proper exercise and recreation. The dining rooms are crowded. In three hospitals there is no separate provision for tuberculosis patients, and few of them have facilities for the care of contagious diseases. Furthermore, the report continues, the living quarters for physicians and others employed in the hospitals are so limited and uncomfortable that resignations are frequent.

The above explains the reasons for the $50,000,000 bond issue to be voted on in November. If the issue is accepted the money will be used for the purchase of land and equipment, and for the construction of new buildings.

New Hospital Opened at Memorial Services in Tokyo

A new hospital built with American funds was opened in Tokyo, Japan, as part of the ceremonies held in memory of the earthquake of 1923. It is called the Doai Hospital, and was built on the site of the Military Arsenal at Honjo Ward. Dr. Miura, who is to be director of the new institution, has expressed great appreciation of the gift.



The Women's Southern Homeopathic Hospital, Philadelphia, Pa., selected Victor equipment throughout for their new $36,000 X-ray Department.

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News of the Month

Where to Build Is Problem in Melbourne

State authorities and medical men have for a number of years been puzzling over the hospital problem in Melbourne, Australia. There are two large hospitals that seem to be the center of the trouble. They are: the Alfred, which, at present, seems to be adequately enough equipped to meet the demands placed upon it, and which has plenty of room for expansion; and the Melbourne, which is located on a small plot of land and has already reached the limit of possible expansion. A research and medical center at a local university also enters into the discussion.

It has been proposed that the Melbourne and Alfred hospitals amalgamate and form a Melbourne medical center on the site of the Alfred Hospital. This, however, would place the medical center at an inconvenient distance from the university. Therefore the only other alternative, the construction of a hospital and medical center on a five-acre plot adjacent to the university grounds, is being considered.

Policies and Operation of Chicago University Clinic

Following is a report of a special committee appointed by the Chicago Medical Society to confer with the University of Chicago concerning the policies and operation of the University of Chicago Clinic:

The university's purpose in establishing and maintaining its clinics (including its hospital and out-patient clinic) is to obtain the clinical material necessary for teaching and research. This being the case, it will not expand its service to the public beyond the limits of this purpose. The development of the university clinics will accordingly be limited to the number of patients necessary for the university's teaching and research activities.

The university does not enter upon practice as a business for income *per se*. Hospital and ambulatory practice as a means of general income are considered to be beyond its scope. It does not undertake to exploit the pay departments or the professors' services as a means of general income for the medical school or for the hospital.

The plan of operation at the present includes free patients, part-pay patients and pay patients. The free patients and the part-pay patients are admitted to the same service, and the only difference is their economic rating. The university will undertake to drop the designation "pay-clinic" as applied to this service, in order that its economic status may be clear and the impression not be carried by its designation that the patients are paying fully for the service they receive. Patients in the private patient clinic will be charged fees commensurate with the usual charges made by physicians for similar services rendered to such patients.

In the admission of free patients the university undertakes to use every reasonable precaution to avoid the abuse of medical charity, and to maintain proper machinery for this purpose.

The university prefers to receive patients referred by physicians; it will give preference to such patients and will as far as possible develop its practice in this direction. It will deal with the physicians referring cases according to the usual customs of the profession. It is felt that one of the most useful functions of the clinics will be to render diagnostic service for patients referred by physicians. The university is prepared to cooperate with the profession as fully as possible in developing the function.

Record Librarians Meet With A. C. of S.

A meeting of the Boston Association of Record Librarians was held in Boston, October 8 to 12, under the auspices of the American College of Surgeons which was at that time holding its annual conference. On Monday evening those in attendance were invited to attend the presidential meeting of the College of Surgeons.

The Tuesday afternoon session, which was held at the Copley-Plaza Hotel, was a clinic on case records in hospitals, under the charge of the American College of Surgeons and directed by Dr. C. W. Munger, director, Grasslands Hospital, Valhalla, N. Y. In the evening a round table was conducted by Edith M. Robbins, president, Boston Association of Record Librarians, at which the following topics occupied the main part of the discussion: Shall records be bound in volumes or in units? To whom shall records be accessible? Ways in which record librarians may be useful to one another; advantage of interchange of information.

At the Wednesday afternoon session Minnie Genevieve Morse presented a paper entitled, "How the Small Hospital Can Maintain a Record System Acceptable to the American College of Surgeons." The evening session was opened with an address by Miss Robbins which was followed by a few words from Dr. Henry A. Christian who was instrumental in organizing the first record librarians' association. Mrs. Clara A. Doolittle, president, Connecticut Hospital Historians' Association, and historian, Griffin Hospital, Derby, Mass., next explained the reason for the organization of the Connecticut association and its functions. Other speakers at this session were Ellen V. Griffin, R.N., Cambridge Hospital, Cambridge, Mass.; Matthew O. Foley, editor, *Hospital Management*, Chicago; Mrs. Enna C. Black, historian, Grace Hospital, New Haven, Conn.; Genevieve Chase, chief librarian, Massachusetts General Hospital, Boston; Frances Benson, Bryn Mawr, Pa., and Dr. T. R. Ponton, American Hospital, Chicago.

Frances Benson presided at a round table on Thursday afternoon, and Thursday evening Mrs. Doolittle conducted a round table at which the gathering of medical and surgical statistics for reports, the advisability of forming a national association and, the standardizing of record clerks as regards the standardizing of records were discussed.

On Friday afternoon Mrs. Grace W. Myers, librarian emeritus, Massachusetts General Hospital, Boston, conducted the opening of the "Question Box."

THE PATIENT *AND* THE DIET

"Hospitals must
tients and personne
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palatable and well
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dinary metabolic a
are so balanced in t
be sound in theory a

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News of the Month

State Associations Arrange Programs

Great interest is being shown in the arrangement of state meetings this year throughout the United States and Canada. The Hospital Association of the State of Illinois will again meet with the Wisconsin Hospital Association in Chicago, February 20 and 21, at the Hotel Sherman and it is expected that more than 300 hospital administrators, department heads and trustees will be present.

Last year the attendance at this meeting was 225, with more than 100 hospitals represented. The increased attendance looked forward to in February is based upon the fact that the meeting will be held directly following the meeting of the American Medical Association's conference on medical education on February 17, 18 and 19, and during the week when the trustees of the American Hospital Association will meet. By this arrangement those attending the meeting in Chicago will be assured a better program than usual because many of the foremost hospital authorities of the country will be on the program and the subjects that will be discussed will complement those that are discussed at the conference on medical education, thus making it possible for those in Chicago to attend first the sessions of the A. M. A. meeting and then those of the hospital associations of Illinois and Wisconsin.

The Midwest meeting to be held again at Kansas City, Mo., February 22 and 23, directly follows the meetings in Chicago. This meeting has generally an attendance of more than 200 and last year had hospital superintendents from Missouri, Kansas, Oklahoma, Arkansas, Nebraska, Colorado and Iowa at the sessions.

In March will be held the three-day session of the Pennsylvania Hospital Association at the Bellevue-Stratford Hotel, Philadelphia, the dates being March 12, 13 and 14. This is the largest single state organization in the country and for more than five years it has maintained an attendance of close to 250 hospital people. The Pennsylvania Association alternates its place of meeting, every other year going to Pittsburgh.

The Indiana Hospital Association meeting, another of the larger state meetings, has set its date for April 11 and 12 at Indianapolis. The meeting last year was held at Indianapolis and was found to be so successful that it was decided to again hold forth in that city.

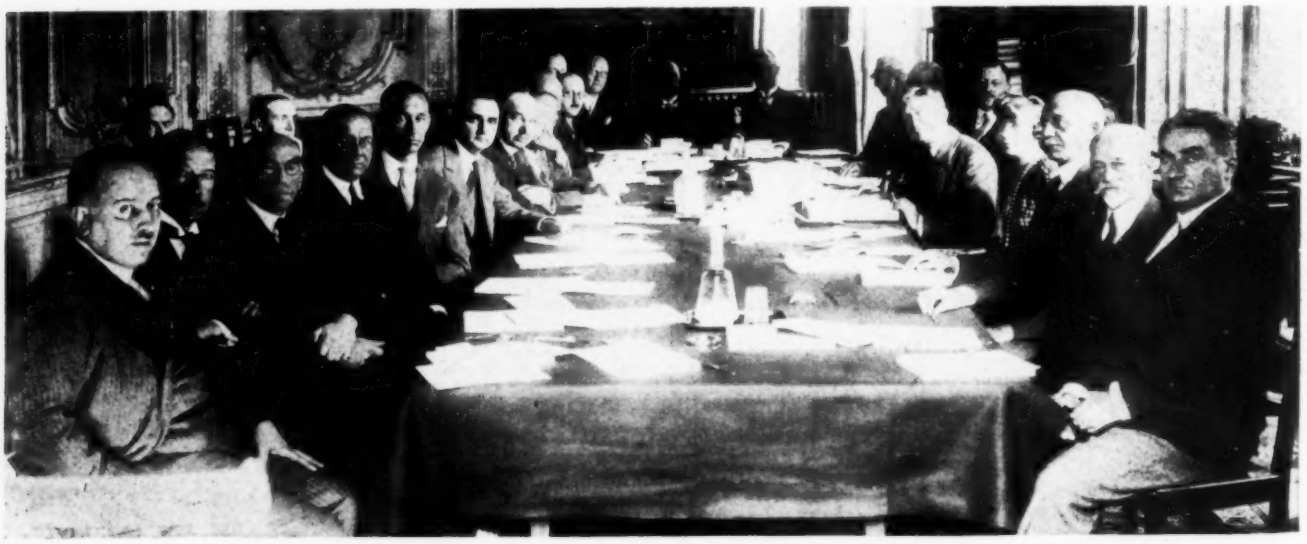
It is expected that other state and sectional meetings will be announced within the next month.

Dr. Winslow Speaks at Nursing Meeting in Chicago

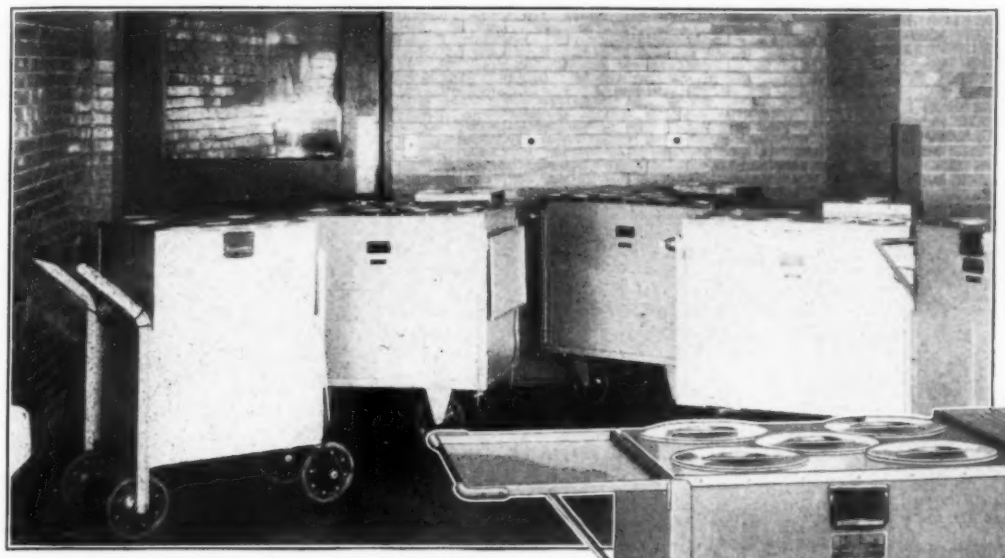
The Central Council for Nursing Education, Chicago, held a luncheon meeting in the Red Lacquer Room of the Palmer House, October 19.

There was an attendance of between three and four hundred, made up chiefly of superintendents of nursing in different Chicago hospitals, members of boards of trustees and well known Chicago women who are active in furthering the objects of the council which are as follows: (1) to help standardize schools of nursing; (2) to acquaint young women graduating from high school with the scholastic standing of the best schools of nursing; (3) to assist hospitals in administrative problems relative to nursing education; (4) to serve the community by making skilled nursing available to all classes; (5) to promote good will and understanding between boards of nursing schools and hospitals; (6) to inform the public of the need of endowment for schools of nursing.

The speaker at the luncheon was Dr. C.-E. A. Winslow, professor of public health, Yale University, his subject being "Nursing as a Community Problem." Mrs. Frederic W. Upham, chairman of the council, introduced Dr. Winslow, who gave an interesting talk on the development



On the invitation of its chairman, Dr. René Sand, Paris, and its secretary general, Dr. E. H. Lewinski-Corwin, New York, the executive committee of the International Hospital Congress met on August 29 at the headquarters of the League of Red Cross Societies, Paris. The congress will be held in Atlantic City, N. J., June 13, 14 and 15, 1929.



Left. Ideals lined up for service at U. of C. Hospital. Below. An Ideal model similar to those used in this system.

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News of the Month

of public health and private duty nursing in America and discussed the present perplexing situation in regard to the nursing profession. "There is something fundamentally wrong" he said "when half the members of a profession are discontented; this situation is uneconomic, it is wasteful, it is inefficient." Dr. Winslow went on to say that group thinking is needed to solve the problem and emphasized that the demand is for higher quality not for increased quantity of nursing.

Dr. Richard Olding Beard, University of Minnesota, who was among the guests of honor at the luncheon, also spoke briefly on the nursing problem.

Rush College Professor Speaker at Dietetic Meeting

Dr. Donald B. Abbott, associate clinical professor of medicine, Rush Medical College, Chicago, was the speaker of the evening at the meeting of the Chicago Dietetic Association, October 17. The subject of Dr. Abbott's talk was, "The Relation of Diet to Intestinal Disturbances."

The association is now making plans for a Midwest Dietetic Conference to be held in Chicago in January. This conference will follow along the lines of the Tri-State Conference held in Chicago last January.

Catholic Group Has Successful Meeting in Iowa

The seventh annual meeting of the Iowa-Nebraska Conference of the Catholic Hospital Association, held at Ottumwa, Iowa, October 29 and 30, was declared to be a great success by the officers of the association.

The Rev. P. J. Mahan, S.J., regent of Loyola University of Medicine, Chicago, opened the first session, and introduced the Hon. E. R. Mitchell, mayor of Ottumwa, who officially welcomed the delegates and offered them his aid in making the convention a successful one. The mayor's address was followed by the president's address, delivered by Sister Mary Giovanni, Ann Arbor, Mich. Dr. F. L. Nelson, Ottumwa, then spoke on "Community Obligations to the Modern Hospital." The morning's session was closed with a trip through St. Joseph's Hospital where the meetings were held.

Among the speakers at the Monday afternoon session was the Rev. C. B. Moulinier, S.J., executive director of the Catholic Hospital Association, whose address dealt with the psychology of hospital management as applied to hospitals of any size. A number of other interesting papers were presented, and following this session the guests were taken on a sight seeing trip through the city. In the evening the hospital gave a banquet for the Sisters and clergy.

On Tuesday the session was opened with an address by the Rev. P. J. Mahan who spoke on "The Nursing School Curriculum." Several members of the staff of St. Joseph's, a number of medical men residing in Ottumwa and delegates from other cities presented various problems for discussion, which added greatly to the value of the convention. Among the subjects discussed at this session were: the means of maintaining hospital standardization, the value of a guild to the hospital, obstetrical problems, the development of the student nurse, nursing problems in Iowa, the place of the purchasing department in the hospital and the problem of "selling" the hospital to the public.

Dr. Bluestone Goes to Montefiore Hospital

Dr. E. M. Bluestone, who for the past three years has acted as director of the Hadassah Medical Organization, Jerusalem, has been appointed director of the Montefiore Hospital for Chronic Diseases, New York, succeeding Dr. Ernst P. Boas. He will assume his new duties November 1. Dr. Bluestone will also be director of the Bedford Hills Sanitarium, Brooklyn, which is a branch of the Montefiore Hospital.

News of Dietitians

Martha Koehne, Ph.D., has resigned as supervising dietitian of Presbyterian Hospital, New York City, and is now a member of the faculty of the University of Tennessee, Knoxville.

Mabel G. Flanley, consulting dietitian, has her office at 547 Stimson Building, Seattle. Miss Flanley was for some time dietitian at Seattle General Hospital.

Alene Snure, formerly assistant dietitian at Fifth Avenue Hospital, New York City, has accepted a position with the Alice Foote McDougal teashops.

Una Crawford has been appointed chief dietitian of the Santa Rosa Infirmary, San Antonio, Texas, after having been at the Hermann Hospital, Houston, since its opening.

Louise Keegan, recently dietitian at Polyclinic Hospital, New York City, and previously at Montefiore Hospital, has opened a confection business in New York.

Alice Burke is assisting Eva Thallman, house manager of the Women's City Club, New York City. Miss Thallman was at Massachusetts General at one time and more recently at Presbyterian Hospital in New York City. Miss Burke was dietitian at Waterbury Hospital, Waterbury, Conn.

Ruth Bowden has resumed her duties with Dr. W. D. Sansum at Potter Metabolic Clinic, Santa Barbara, Calif., after a few months' stay with the California Fruit Growers' Exchange. Elizabeth Hayward, formerly dietitian at the Methodist Hospital, Los Angeles, succeeds Miss Bowden at the exchange.

Beulah Hulsibes has resigned as assistant dietitian at Presbyterian Hospital, New York City, to accept a position in Schraft's restaurants.

Oklahoma Hospital Is Sold

Oklahoma Hospital, Tusla, Okla., has been sold by its founder and owner, Dr. Fred S. Clinton, to the Oklahoma Hospital Corporation, an organization of a group of Masons of Tulsa, according to a recent announcement. The institution has a capacity of sixty beds.

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Licensed doctors, dentists, dietitians and health officials, who have studied dietetics, are the key people who should direct the nation's food intake, and are in danger of being supplanted these days by self-authorized food propagandists, faddists and psuedo-scientists.

The purpose of this statement is to present scientific facts to offset misleading statements by food fakers. This statement has been submitted to and approved by a group of disinterested competent investigators in the field of nutrition, selected by the editor of The Journal of the American Medical Association. These investigators include Professors GRAHAM LUSK, E. V. McCOLLUM *and* LAFAYETTE B. MENDEL.

(For complete information on nutrition see books written by these authorities.)

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Personals

MRS. GENEVIEVE CLIFFORD, formerly superintendent of the Ithaca Memorial Hospital, Ithaca, N. Y., has been chosen superintendent of the new hospital for communicable diseases at Syracuse, N. Y.

JACOB P. BLANK has been elected superintendent of the Monongahela Memorial Hospital, Monongahela, Pa., following the resignation of ADELAIDE M. LEWIS.

LEE C. GAMMILL has been appointed to succeed H. G. HARCROW as superintendent of the Baptist State Hospital, Little Rock, Ark.

ADELINE M. HUGHES has resigned per position as superintendent of the Salem General Hospital, Salem, Ore., and has succeeded ERNEST G. MCKAY as superintendent of Passavant Hospital, Jacksonville, Ill.

SUE GILLIN has tendered her resignation as superintendent of the Bradbury Memorial Hospital, Belfast, Me., and will take up a professional practice in Boston, Mass.

CHARLOTTE JANES GARRISON has recently been appointed to fill the vacancy left by DR. PAUL W. WIPPERMAN as superintendent of the Decatur and Macon County Hospital, Decatur, Ill. MISS GARRISON was once superintendent of the Broadlawns General Hospital, Des Moines, Iowa, and more recently has been in charge of the Christian Welfare Hospital, East St. Louis, Ill.

EMMA DALE WEBB, formerly superintendent of the Booth Memorial Hospital, Covington, Ky., has recently been appointed superintendent of the Roxbury Hospital, Boston, succeeding R. GAUDREAU.

ELIZABETH GALLERY, formerly superintendent of Latrobe Hospital, Latrobe, Pa., has been designated as superintendent of the new Emergency Hospital, Annapolis, Md., succeeding RUTH M. RHODES.

MARY F. BAKER has been appointed superintendent of the Union Hospital, Elkton, Md., succeeding EVELYN PIERSON, resigned.

DR. ARTHUR H. PERKINS has accepted the appointment as assistant superintendent of the Waterbury Hospital, Waterbury, Conn.

ARTHUR O. BAUSS, assistant director, New York Homeopathic Medical College and Flower Hospital, New York City, has resigned.

C. M. TREFFRY, formerly matron at the Shaunavon Union Hospital, Shaunavon, Sask., has been appointed superintendent of the Miners' Union Hospital, Coleman, Alta.

HARRIET R. ANDERSON has resigned as superintendent of the Northern Liberties Hospital, Philadelphia, Pa., and NELLIE A. GEALT has been appointed to fill the vacancy.

WILLIAM STOUT, formerly superintendent of the Kansas State Hospital for the Insane, Larned, Kan., has died, according to a report.

DR. LINSLY R. WILLIAMS has retired as managing director of the National Tuberculosis Association, and has been succeeded by DR. KENDALL EMERSON, Worcester, Mass.

DR. H. A. BURNS, formerly on the teaching staff of the University of Minnesota Medical School, has been appointed superintendent of the Minnesota State Sanatorium, Ah-Guah-Ching, Minn., succeeding DR. P. M. HALL, deceased.

DR. H. G. STEVENSON, formerly associated with the Bonnie Burn Sanatorium, Fanwood, N. J., has been appointed superintendent of the Berks County Tuberculosis Sanatorium, Reading, Pa., succeeding KATHLEEN W. PURCELL.

DR. J. D. THOMAS has been appointed superintendent of the Clark County Tuberculosis Sanatorium, Springfield, Ohio, succeeding DR. EARL A. MARTIN.

ALFORD R. HAZZARD, formerly of the United States Veterans' Bureau Hospital, Kansas City, Mo., has been appointed to succeed DR. B. RUSH FIELD as superintendent of the Easton Hospital, Easton, Pa.

RUTH CLYBURN has recently been appointed superintendent of the Corry Hospital, Corry, Pa., to succeed CLARA M. WIDDIFIELD.

THOMAS B. H. ANDERSON, formerly superintendent of the Marine Hospital, New Orleans, La., has been appointed executive officer in charge of the United States Marine Hospital, Pittsburgh, Pa., succeeding C. H. GARDNER.

DR. FRANK B. FUSON has been appointed to succeed MRS. C. C. GODDARD as superintendent of the Evergreen Place Hospital and Sanatorium, Leavenworth, Kan.

DR. MASON COMBS has recently taken charge of the Wilson Hospital, Pineville, Ky., and the institution is now named the Pineville Hospital.

DR. STEPHEN O. WATKINS, formerly superintendent of the Wyoming Tuberculosis Sanatorium, Basin, Wyo., is reported to have resigned on account of ill health.

JOHN S. MCCONNELL has resigned as superintendent of the Newcomb Hospital, Vineland, N. J.

ANNE ZIMMERLY, R.N., has recently been appointed as instructress of nurses at Lake View Hospital, Chicago.

DR. W. C. BARTON, formerly in charge of the Albuquerque Indian Hospital, Albuquerque, N. M., has accepted a position in Santa Fe, N. M.

JOSEPHINE LACY has resigned as superintendent of Harber Hospital, Seminole, Okla., and is now associated with the clinic at the Navarro County Hospital, Corsicana, Texas.

DR. WILLIAM B. QUINN is the owner and manager of the new Quinn Private Hospital, Springfield, Ohio.

MRS. EMMA C. BERGMAN has resigned as superintendent of Resthaven Hospital, Mount Vernon, Wash., and has been succeeded by MRS. LEO DAME MILLER.

DR JOHN WESLEY LONG of the Wesley Long Hospital, Greensboro, N. C., died recently after a short illness.

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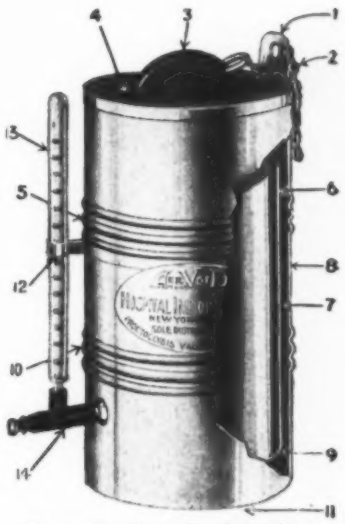

Cross-Section Explanation

1—Hanger for suspending Irrigator.
2—Chain attaching rubber cover to Irrigator.
3—Grip to rubber cover.
4—Rubber cover—snug fitting.
5—Reinforcing ribs in outer shell.
6—Inner metal shell.
7—Vacuum chamber.
8—Outer metal shell.
9—Sanitary rounded corners of inner shell.
10—Reinforcing ribs in outer shell.
11—Flat bottom.
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Brooklyn Hospital, Brooklyn, N. Y.
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Good Samaritan Hospital, Cincinnati, Ohio
House of Mercy Hospital, Pittsfield, Mass.
Jewish Hospital, Brooklyn, N. Y.
Long Island College Hospital, Brooklyn, N. Y.
Mary Immaculate Hospital, Jamaica, N. Y.
Mercy Hospital, Chicago, Ill.
Mercy Hospital, Pittsburgh, Pa.
Methodist Episcopal Hospital, Brooklyn, N. Y.
Miami Valley Hospital, Dayton, Ohio
Mount Sinai Hospital, New York City, N. Y.
Mullanphy Hospital, St. Louis, Mo.
Ohio State University, Columbus, Ohio
Presbyterian Hospital, Chicago, Ill.
Presbyterian Hospital, Newark, N. J.
Presbyterian Hospital, Pittsburgh, Pa.
Roosevelt Hospital, New York City, N. Y.
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NURSING AND THE HOSPITAL

Conducted by M. HELENA MC MILLAN, R. N.,
Director, School of Nursing, Presbyterian Hospital, Chicago

Providing Competent Nursing Care for the Modest Purse*

By JANET M. GEISTER, R.N.
Director at Headquarters, American Nurses Association, New York

WHENEVER two or three people are gathered together in these modern days it is not long before the conversation arrives at the subject of how much it costs to be sick. A relates that his boy's appendix cost him $800, while B complains that his wife's confinement took all the money he had saved toward a new car. C states that it will be a year before he gets caught up after paying the bills caused by a broken leg.

Although all three are grateful that there are x-rays, and laboratories and delivery rooms offering a service that insures to mankind a greater security than was available a few decades ago, none of them has a clear idea of why his sickness bills are so high.

When A, B and C begin to discuss their nursing bills they all talk at once "Forty-two dollars a week each for two nurses and twenty dollars extra for their board! It's outrageous!" They are appreciative of the security their loved ones received through continuous nursing service but they cannot forget that after the acute stage of the patient's illness had subsided the nurses did more or less sitting around. "Why, the night nurse slept half the night but at the end of the week I had to write out my check for $104 just the same," B fumes.

Most of us recognize that a $100 a week nursing bill added to a hospital bill and a doctor's bill and all the other bills that come with sickness is a matter of genuine hardship to the moderately circumstanced patient. If the patient happens to be the wage earner of the family the situation may bring real privation within that family.

If we ask A, B, and C, what is to be done about the high cost of nursing the invariable answer is: "Make the nurses reduce their charges." And A, B, and C are not alone in offering this prescription; it is the stock cure-all offered. "Put all nurses on a maximum basis of $5 a day," cries one highly placed authority, "take away their diplomas if they charge more, and your nursing problem will be solved."

The implication is that the private duty nurse is a profiteer without regard for the finances of her patient. The truth is that if private duty nurses in establishing their rates did not consider the finances of the general average of patients their rates would be much higher. Twenty thousand questionnaires from ten different states revealed to the Committee on the Grading of Nursing Schools that the private duty nurse's annual income is the lowest of all nursing groups. She averages $1,314 a year. Four months out of every year are spent in waiting—a day here, a week or a month there—for A's boy to have appendicitis or B's wife to have a baby.

Do A and B pay for the nurse's availability when their need for nursing suddenly occurs? They do not, any more than they pay for the availability of the hospital bed that must always be in readiness for them. But the hospital is an organized unit whose rapid turnover in beds and variety of services enable it more readily to absorb the overhead of an empty bed. The nurse whose whole output and activity is the day's work of herself, carries alone, without the aid of any other department, all losses connected with every day's unemployment. She pays the cost of her availability to A and B and C. Under our present system it is essential that she be unemployed a part of the time to be ready for their unexpected, unpredictable demands.

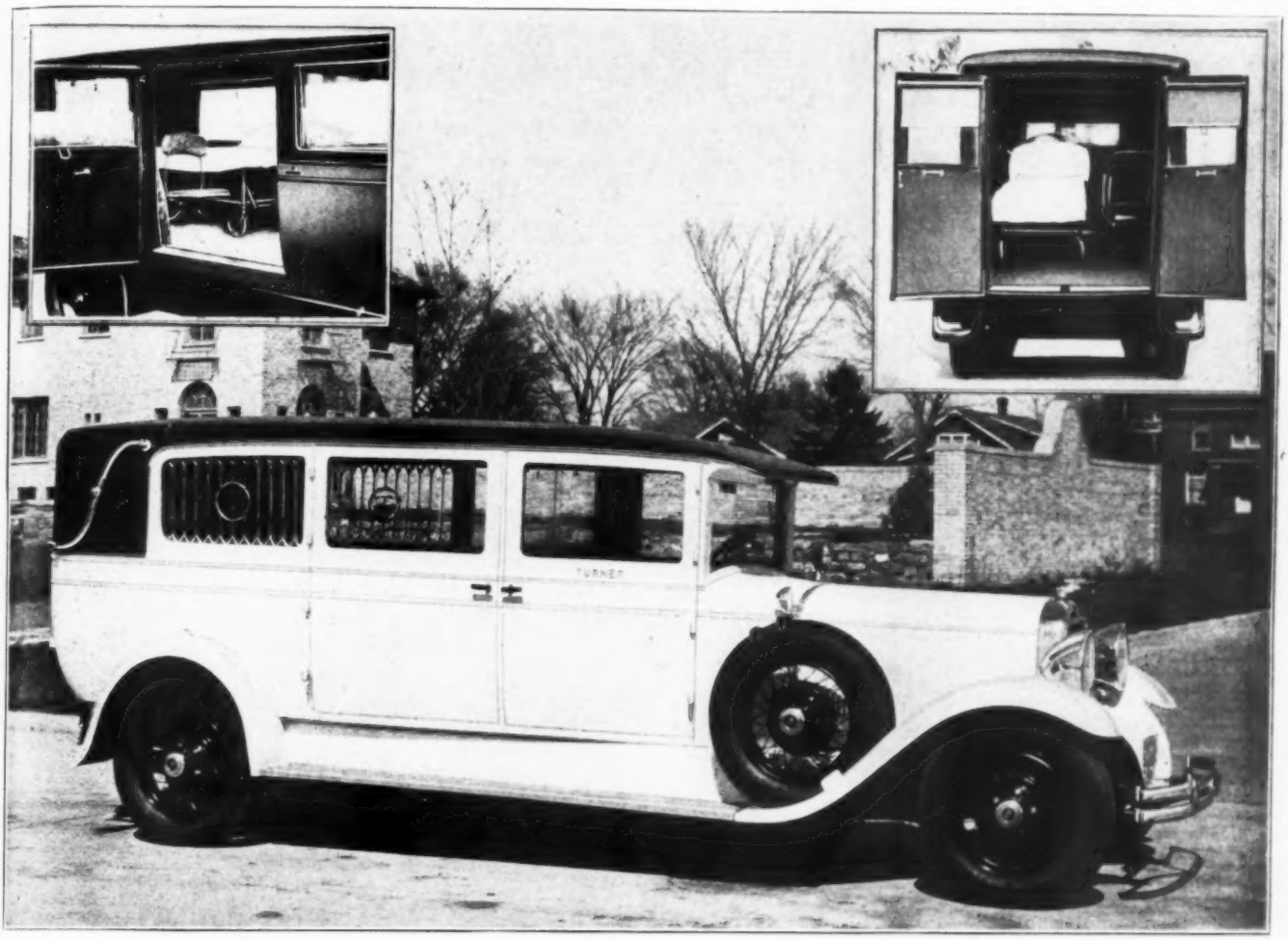
A Twofold Problem

The matter of furnishing the patient with the quantity and quality of nursing care he needs at a moderate cost, and at the same time insuring the nurse a reasonable income and reasonable working conditions, is giving the nursing profession deep concern. We are concerned both for the patient who purchases nursing service he can ill afford and for the one who needs it but goes without because his means do not permit it.

We are concerned too with the system that offers to the hospital patient but two types of nursing service—the possible two hours he gets daily from the general floor duty nurses or, if he needs more than this, the continuous service he gets from the special nurses he must employ personally. Laboratory, x-ray and drug room facilities are all available to the patient in the quantity he needs but his nursing comes to him only in two types of packages, one containing two or three hours of service, the other a full twenty-four hours.

A's son with appendicitis may need but eight hours of

*Read before the Hospital Association of Pennsylvania, Pittsburgh, March 28, 1928.



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actual nursing service out of every twenty-four. A, however, being a wealthy man desires his son's nursing attention to be in keeping with the $100 a week room he occupies. He has no quarrel with anyone if he wishes to pay for more hours of care than he actually needs. But with B and C it is different. They cannot afford to pay for anything that is not actually needed. If their nursing needs are for continuous service for forty-eight or seventy-two hours, but after that for decreasing amounts, is it not possible to offer them a package of nursing somewhere between the two or three hour unit and a full twenty-four unit? That is one of the questions we are asking ourselves to-day with increasing frequency.

Present System Unsatisfactory

We know that the present system is unsatisfactory; that no amount of treatments of its symptoms will bring about lasting cure. We know our present utilization of private duty nursing service is wasteful, and that the patient and the private duty nurse pay the prime cost of this waste. If anyone doubts there is waste let him count the hours spent in corridors and rooms by special duty nurses. The nurse is scolded, but is it her fault? We believe that only through the minimization of this waste of both off duty and on duty hours and through a more effective utilization and distribution of nursing service can we bring any real solution to the so-called nursing problem.

And in terms of patients A, B, and C, just what does this mean? It means primarily two things. First, we must learn what are a patient's nursing needs in terms of the amount of nursing service his type of illness requires and approximately at what hours in each twenty-four it will be required. Second, we must so organize our machinery that it will be possible to give the patient the amount of nursing service he actually requires when he needs it.

Is it not time for us to stop talking about the nursing problem and learn what is the nursing problem? Of course, when we talk about the nursing problem we may be speaking of it from any number of angles. We may be at the peak of our sickness load for the year and thus find it difficult to get enough nurses. Then our immediate problem is a temporary shortage of special duty or floor nurses. Or we may be at serious odds with those responsible for the education of the student nurse and our nursing problem to us becomes one of "over education." Or we find any number of other things wrong with the nursing situation. But the most acute problem in nursing to-day as it affects patient, doctor, hospital administrator and nurse alike is that of supply and demand.

What kind of nursing do our patients need? How much of it? Under what circumstances can this be given to them? How can we keep the cost within the means of the average patient and yet make the field sufficiently attractive to hold the right women?

The question is frequently asked: How many nurses are needed in a general hospital of 100, 200 or 500 beds? It is my opinion that the answers given are based on guessing, sometimes fairly adequate guessing, but nevertheless guessing. We cannot answer this question until we know how much and what type of nursing different types of patients require.

Dean Annie Goodrich of the Yale University School of Nursing says: "There are probably few studies more immediately important than those through which may be determined with a reasonable assurance of accuracy, the nursing care that should be provided for patients of all ages, demanding a variety of nursing procedures."

Our present system is to establish a certain minimum called general floor duty, to which all patients, except those critically ill, are eligible. When a patient requires anything beyond that, or thinks he does, the next step is continuous twenty-four hours of nursing service with a trebling of his costs. This, in my opinion, constitutes an important contributing factor to the high cost of nursing.

This is not meant as a criticism of the hospital. If criticism is indicated it should be directed toward the system that all of us have permitted to develop.

We know the kind of care the average pneumonia or maternity or postoperative appendectomy patient requires, but we do not know how much he requires. Our well organized visiting nurse associations have found through time studies approximately the amount of time that is spent in providing different types of nursing care. The Cleveland Visiting Nurses' Association, for instance, knows that its average postpartum care takes fifty-eight minutes and costs $1.95. Prenatal visits average twenty-one minutes and cost $1.04. The average bedside nursing case consumes twenty-eight minutes and costs $1.13.

Where a maternity delivery service is maintained by such organizations the average number of hours spent by the nurse in the home during the patient's labor and delivery has been computed and the cost of the service estimated from this. In the large number of associations furnishing small units of nursing service to patients paying the full cost, the charge to the patient is on an hourly basis, hence the term "hourly nursing."

Happily we have the beginnings of research along this line in the hospital. A notable recent study was conducted at Yale University School of Nursing. It is published under the title, "Time Study of Nursing Procedures Used in the Care of a Variety of Surgical Cases." Only the minimum essentials of care were estimated, such as routine morning and evening care plus treatments and medications ordered by the doctor. Some thirty separate procedures were timed more than 300 times.

Gladys Sellew, Children's Hospital, Cleveland, published in the *American Journal of Nursing*, February, 1927, the results of time studies made in the nursing care of children in that hospital.

The findings of all these studies are extremely illuminating and point the way toward a more accurate solution of the problem of distribution of nursing service than has been possible heretofore.

Immediate Action Demanded

But in considering ways and means of nursing our patients in terms of their needs rather than in terms of the traditional system, are we to wait until research tells us in accurate terms how many minutes of nursing we must provide for each type of case? It does not seem so, for while as an academic proposition we might proceed with greater surety to remedy the conditions if we waited until all possible research had been completed, yet the need of relief is so immediate and our present knowledge is such, that surely we are justified in applying a remedy at once even though it is on experimental lines.

All about us in business and industry there is demonstrated daily how by reducing cost a product may be brought within the reach of the largest number of consumers. The automobile is no longer a luxury to be afforded only by the wealthy. Rather, through the elimination of waste and centralization of workers under one efficient management, it has become available to large numbers of people at a price that does not cause them to grumble.

In all other departments of the hospital we are accus-

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tomed to unified organization. For instance, the patient does not provide his own x-ray apparatus but purchases what his doctor prescribes from a common supply of equipment and staff maintained by the hospital, and sold to him by the hospital in the quantity and at the time he needs it. Similarly, the hospital does not require the patient to provide his own operating room and staff. Rather it maintains as many operating rooms as are needed and sells the use of them with the services of the staff to the patients for the time they are needed.

In the distribution of student nursing service this same unification of service under one central management is customary. It is only in the type of care the patient now gets under what is called special duty nursing that this unification of service does not occur.

Therefore, just as we supply the principle of organization in all the other departments of the hospital, does it not seem reasonably safe to extend it throughout all of its nursing service without waiting until research gives us the precise number of minutes each type of patient may need? Can we not, indeed, make research a by-product of our early experimentation? We are all familiar with the axiom that we "learn by doing." It seems obvious that an approximate knowledge of the number of patients a graduate nurse can safely care for in an eight or nine hour period will be determined soon after we begin to try it.

What should such organization involve? Reduced to its simplest terms it would mean:

1. Organization by the hospital of its own gradudate nursing service with a reserve staff, in cooperation with the local registry, for peak loads of illness and for emergencies.

2. The hospital, free to select its own staff and set its own standard of work, would be responsible for this nursing work.

3. This nursing service would be distributed to the patients in the quantity and quality the doctor feels is necessary for his patient, one nurse to two or three or four patients, or one nurse for one patient.

4. The nurse would be employed by the hospital and assured regular employment, regular hours for rest and recreation and a reasonably shorter day than appears possible under present circumstances.

Group Nursing Reduces Waste

Does this mean group nursing as the term is used to-day? We do not know. Group nursing is to-day our most important single experiment in the line of organized graduate nurse service. Though the various schemes of group nursing vary considerably, the common purpose of all of them is to minimize waste and reduce cost. The effort is toward a better distribution of nursing service.

In some hospitals like St. Mary's, Rochester, Minn., the nurse is employed regularly on a monthly or an annual basis and the patient contracts with the hospital for her services. In other hospitals a nurse is called in in time of stress to look after two, three and even four patients. When they no longer require her services she goes back to her free lance status until the next similar group appears. These types are both called group nursing, though obviously they offer two different types of service to both patient and nurse.

The underlying principle of group nursing that has been found successful through eight years' trial at Rochester, and through shorter periods at the University Hospital, Ann Arbor, Mich., and other hospitals, is that the hospital organizes its own nursing staff and furnishes it to the patients in units of one-quarter, one-third and one-half, or all of the nurse's time. The patient pays in accordance with the amount of nursing service he uses. At Ann Arbor and at one of the Seventh Day Adventist hospitals near San Francisco, the patient is told upon arrival that his room charge does not include nursing. His nursing charge is separate. This is true in a number of other hospitals, including St. Mary's, Duluth, Minn.

Whether or not any one of these forms of group nursing is to be our ultimate answer to this question, it seems inevitable that, if we are to meet adequately the nursing needs of our moderately circumstanced patient, we must look forward to an organized service administered by the hospital. No one is particularly enthusiastic over the idea. It means a complete revision of the tradition that the patient who needs more than a certain minimum of nursing must have continuous service. Once upon a time this may have been true but to-day we know that many of our patients do not require continuous service though they may need six or eight hours a day.

The patient may insist on it as he insists on a private room when his finances indicate a ward bed, but we are told by such authorities as Sister Domitilla and Shirley Titus that once the average patient has an intelligent understanding that he will fare just as well, he is entirely agreeable to the idea.

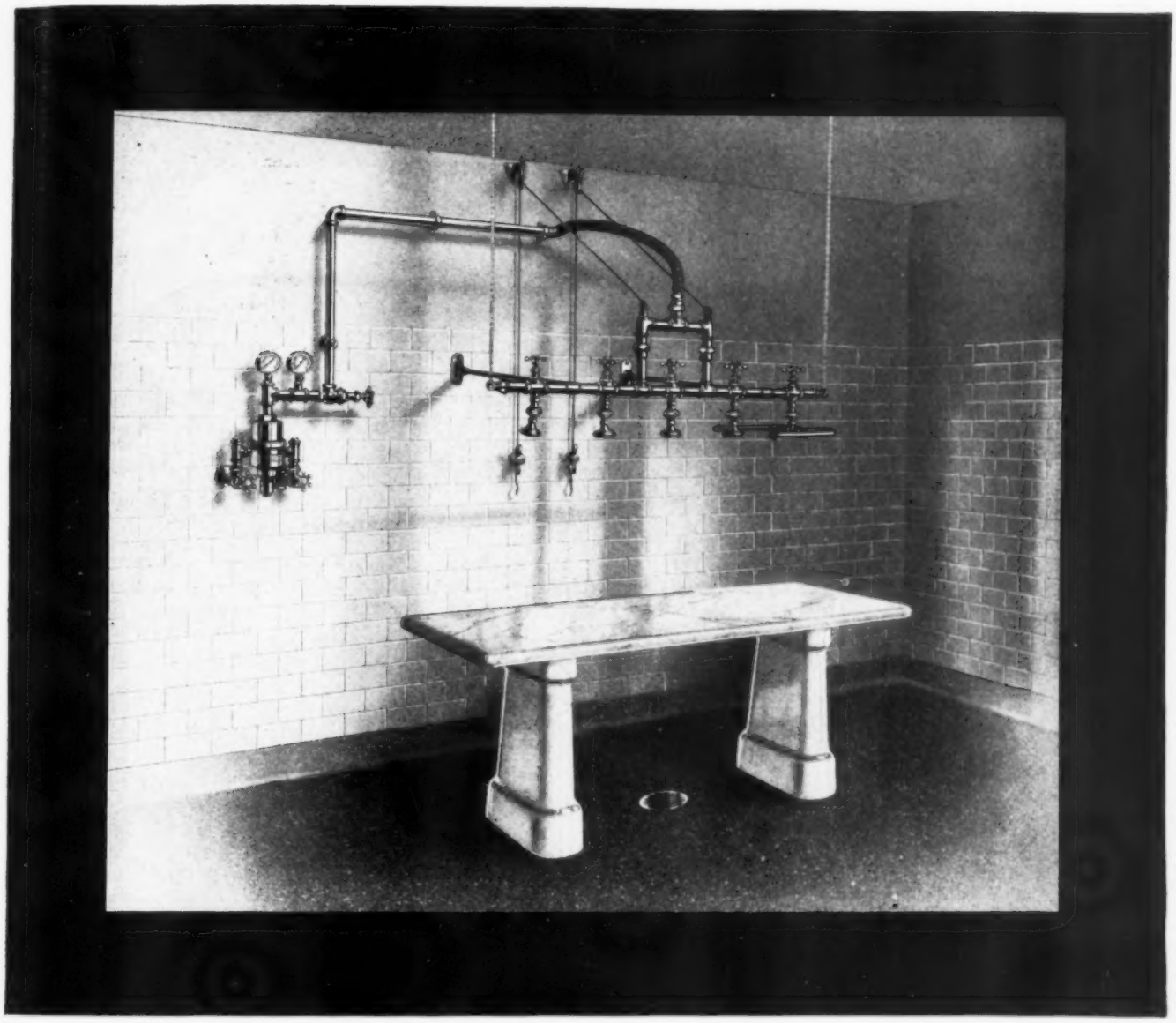
Ultimate Success Is Assured

Many experiments in group nursing have been unsuccessful or only moderately successful. One reason I believe is that they were not truly organized units of the hospital, the experiment being conducted on a free lance basis. Too, it is so radical a change from a fifty-year old custom that only through education and experiment can final success be achieved. Many flights across the ocean have been unsuccessful, but who doubts that we shall live to see the day of safe flight to Japan or France?

The fact is that the growing demand from moderately pursed citizens for less expensive sickness care is forcing us to consider how to eliminate nursing waste, how to reduce nursing costs, how to make more nursing care available to the average patient. Clearly our present free lance system of distribution of graduate nursing service is not the answer.

Someone says increase the size of our training schools. There is also a growing body of opinion that it is less expensive to operate a graduate nursing staff than to operate a well conducted training school. Is it not about time, too, that we give some thought in producing our supply of graduate nurses to the demand for this service? All over the country private duty nurses have passed through one of the longest periods of unemployment in their history. Periods of unemployment have been on the increase in the past few years. The nurses are thinking harder and more clearly on the subject of supply and demand than ever before. It is a question that in the last analysis is of vital concern to the patient, for his nursing security lies in a well organized, happy force of nurses.

While our primary aim may be reduced costs there are numerous other factors that need to be considered in our study of the nursing problem. The hospital administrator, using many special duty nurses, though he may fully appreciate the necessity of an integrated staff, faces daily and weekly a great turnover in the workers within his institution. The tendency to shorten the hospital stay of patients increases this turnover. More than two-thirds of the nurses answering questionnaires in a New York State study of nursing were doing special duty in hos-



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pitals at the time of their report, and 50 per cent of them reported cases of one week or less in duration. Some of these nurses worked in three and even four different hospitals during the week of the study. Some of them had trained in fifty-bed hospitals in small towns and were called on special duty in 300 and 500 and 800-bed hospitals in large cities. Some, trained in large hospitals, municipal or private, were on duty in every type of institution but the kind in which they had received their training.

While the essential technique of nursing care may be the same in every hospital, the policies and methods of work, staff interrelationship and administrative customs differ in every institution. The difficulties of these constant adjustments to both administrators and special duty nurses are many. In one hospital clean linen is issued regularly and delivered to the special duty nurse in the patient's room. In another the nurse must find the head nurse, explain her needs and obtain her supply. In another there is no real policy in regard to the issuance of linen and the special duty nurse must purloin what she needs at advantageous moments. If the nurse accustomed to purloining linen tries that method in an institution where linen is issued on requisition, it is not difficult to imagine what happens.

Why Friction Occurs

This same lack of uniformity prevails in regard to other things the nurse must obtain for her patient. The hospital administrator justly resents the special duty nurse who enters his institution with a chip on her shoulder. On the other hand, what put the chip on her shoulder in the first place? It is scarcely to be wondered at that friction between the administration and the special duty nurse often occurs. Certainly the patient does not profit when the head floor nurse and his special nurse are at odds over such questions as the issuance of supplies or relief at meal times. And this kind of friction occurs most frequently where the relationship between the administration and the special duty nurse is not clearly outlined through organization. It is to the credit of human tolerance that the friction engendered by so haphazard a system does not work more destructively than it does.

We believe much of this can be obviated through the organization of a graduate nurse staff whether it be for experimentation in group nursing or for general floor duty. In a recent article on group nursing many advantages were listed including "greater stability and permanence of the nursing staff and promotion of order and regularity throughout the hospital."

We do not underestimate the administrative difficulties of such an undertaking. Many hospital buildings, for instance, do not readily lend themselves to a group nursing scheme. To offset this, some hospitals set aside one floor or section to this plan. Numerous hospitals now under construction are being built with group nursing in view as the major form of nursing service.

Probably the two greatest difficulties involved in any program for organizing graduate nursing service under hospital management in sufficient quantity to meet the usual nursing needs of patients are: the cost to the hospital not only in salaries for nurses but also in salaries for additional supervision; the thought and care that must be expended when any group is organized for service. Organizing a nursing staff involves far more than simply gathering together a group of individuals.

In discussing costs it is obvious that the hospital cannot, from an economic viewpoint, have enough nurses always on hand to care for every emergency. But every hospital knows or can learn what is its average case load, when peaks occur and what types of care different seasons of the year call for.

In one hospital of 450 beds, for instance, the graduate nurse service was so completely organized that there were at the time of visit but sixteen special nurses on duty while in another similar hospital at the same time there were seventy-five special nurses. Is there not a reasonable point between these two examples from which the hospital administrator can depart in organizing to meet the nursing needs of his patients?

Any industry or business or school system organizes its personnel to carry its average load of work. Could not the hospital do likewise? For the unexpected, unpredictable demands would it not be possible to have in cooperation with the local official nurses' registry, a reserve corps of nurses? We are urging registries to organize as a reserve group, nurses who have married and retired and who are ready to help in time of need, nurses who want to work but two or three days a week and any other type of nurse who is ready to give a part time or full time service on a reserve basis. The nurses' registry should be a community nursing bureau to which the hospital, the doctor, and the patient may turn for nursing aid, confident that his request will be met. The hospital that has a close and harmonious relationship with the local registry should be able to obtain from it the reserve corps it needs.

As for the actual cost of maintaining an organized staff in relation to the income it provides, little can be definitely stated because our known experience is so limited. We are firmly convinced on one point, however. When the moderately circumstanced patient finds it possible to purchase nursing service in packages to suit his needs, which we believe would include stark necessities plus a fair degree of comfort, more and more will he purchase this additional service he now too often buys at a price he cannot afford or else goes without. We are all familiar with the economic principle that as the price of a commodity comes within the reach of the moderate purse the number of purchasers increases. The cost question seems to reduce itself primarily to one of volume. When enough people purchase nursing on this basis the income tends to balance outgo.

Association's Scope Broadens

Just a few years ago the primary object of the Visiting Nurse Association was to furnish skilled nursing service free to the sick poor. When it made this service available to the moderately pursed man by charging him cost the service broadened to include both free and pay cases. The growth in visiting nurse associations since then has been phenomenal, and we find that the degree of self-support in these agencies has increased in proportion.

Shirley Titus, University Hospital, Ann Arbor, Mich., states that in her group nursing plan even though patients were charged but $4 a day for nursing service the hospital's only losses were in providing vacations and sick leaves for the nurses. If the patient were charged enough more to create a reserve for these even then the cost would not be disproportionate. At St. Mary's, Duluth, the report was that a balance in favor of the hospital occurred at the end of the first experiment.

A well known superintendent of nurses says it is her experience that group nursing can be administered more economically than the operation of a nurses' training school, "provided," she adds, "that the training school is operated as it should be."

We have a number of factors to consider in organiz-

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ing a graduate nurse staff. We know that private duty nurses do not as a rule eagerly accept hospital floor duty. We have the anomaly of idle nurses waiting for work while across the street stands a hospital with floor positions going begging. There are several reasons for this. First, we have the nurse who wants to continue free lancing. She believes her independent method of work to be the most desirable of all, not realizing that this so-called freedom is frequently bondage of the most genuine variety. In allowing herself too great privileges in picking and choosing she binds herself to all the hardships of irregularity.

We cannot be too critical of her, however. Since nursing from its inception has been conducted on the free lance principle, it is natural that so well grounded a habit of practice cannot immediately be changed. Another problem in organizing a graduate nurse staff is well stated by Mary M. Roberts, editor, the *American Journal of Nursing*, in the April issue of that magazine:

"Graduate nurses, generally, do not like general or floor duty. Why? Because an astonishing condition has been allowed to develop. Any bedside nursing in hospitals, except special duty nursing, is looked upon by most graduate nurses as student work. It is as if it were the surroundings of the private patient that exalted the service from student to graduate rank, whereas only a demonstration of skill and fitness should be permitted to do that. Many superintendents of nurses frankly state that they prefer student service to graduate service.

"What is the use of graduating nurses if their service is not more skillful, more valuable in every way than that of students? Why do nurse administrators prefer students to graduates? Because much thought has been put into the organization of schools and comparatively little into the organization of graduate service. The time has come for a radical change in thinking."

We believe Miss Roberts has struck on a vital weakness when she says, "Comparatively little thought has been put into the organization of graduate service."

What the Nurse Wants

From the thousands of questionnaires that have come to the Committee on the Grading of Nursing Schools we have learned what it is the nurse wants in her working conditions. She wants first and foremost regularity—regularity in work, life, and in reasonable hours. She wants a reasonably adequate income, constructive leadership and opportunities for growth.

These wants are not unreasonable. They represent what every worker needs. The realization of them is commonplace in most fields of work. We are all familiar with the type of nurse who is interested only in regularity in hours and regularity in pay. We are happily also familiar with the type of nurse whose horizon is far wider, who hungers as much for educational supervision and opportunity for growth as she does for bodily sustenance. It is only when we offer these four essentials that we attract and hold this type of woman. It is this type of woman who gives our patients the type of care we want them to have.

My own experience as an executive and as a research worker has convinced me beyond any shadow of doubt that the money cost is not the primary factor in providing the best quality of nursing service to our patients.

We have, for example, two nursing associations in a certain large community. Agency 1 pays higher salaries throughout. It offers regular hours and regular pay but little else. The work is mediocre and mechanical. Individual interest and initiative are soon lost in the deadly monotony of the work. There are enough supervisors but they are of the old militaristic type, who are "snoopervisors" rather than constructive leaders. We do not know the cost per visit because it has not been computed but we do know that the quality of work is mediocre. Agency 2, with its lower salaries, offers much more to the nurse and a quality of service to the patient far superior to that of Agency 1. Agency 2 has recognized that few of us work well without some form of supervision, but that this supervision must be constructive in nature. It says that the quality of supervision marks the type of work that the patient receives. Therefore its supervisors or head nurses are chosen with utmost care. This agency recognizes that education does not stop when we receive our degrees. Continuous study is necessary if one is to keep informed of the constantly increasing body of knowledge. So it keeps up the student atmosphere through lectures, case conferences, weekly staff conferences.

How Agencies Serve

Agency 2 recognizes that in bringing together a hundred graduate nurses it is bringing together the methods and practices of a hundred training schools. It gives each new nurse an introduction to her work and to the organization, in order that by learning policies and methods she may more readily be integrated into the staff. When she starts into the district with her bag she has had a thorough going lesson in bag technique, in record keeping, in the agency's policies, in its standing orders. She knows the rules of cooperation with doctors, hospitals and others.

This agency averages nine visits per nurse per day. Including into the cost per visit the cost of the introductory period, supervision, conferences, carfare, laundry, bag equipment and supplies and salary, its average cost per visit is $1.20. The nurse knows that opportunities for promotion exist and that these promotions are on merit. As a result of all these factors there is an esprit de corps and a team work that brings to the humblest tenement or to the finest home, the same splendid type of nursing care. The nurse feels herself related to her work and to her organization. She has a sense of belonging. She feels she is one of a group, organized for the well-being of sick patients.

Agency 2 does better nursing work at a lower cost than Agency 1. The reason is that it offers to the staff the essentials to be found wherever staffs are successfully organized.

Salaries are a factor but not the only factor. Nurses are individuals first of all, and respond to the same stimuli and to the same principles of personnel management found good in other fields, industrial, mercantile, educational.

Miss Roberts goes on to say in her editorial:

"In one university hospital which prefers to be nameless, there is no lack of applicants for positions on general duty. Only good nurses are acceptable. They have opportunity for study. They know that promotions to head nurseships and other permanent positions are made on merit. There is a waiting list for general duty. This institution has, in essence, adopted the slogan, 'Why stop learning?' with highly satisfactory results to nurses and administration.

"A growing number of hospitals are working along similar lines. Recently Anna D. Wolf, director of nursing, Albert Billings Memorial Hospital, University of Chicago, was heard to pronounce a veritable eulogy on the quality of service given by graduate general duty

Buttered Spinach on Toast

On a thin slice of toast place a mold of Libby's Spinach, well buttered. Pour white sauce over it. Garnish with hard cooked egg and sliced Libby's Beets and parsley, as illustrated at the right

For the Children's Ward

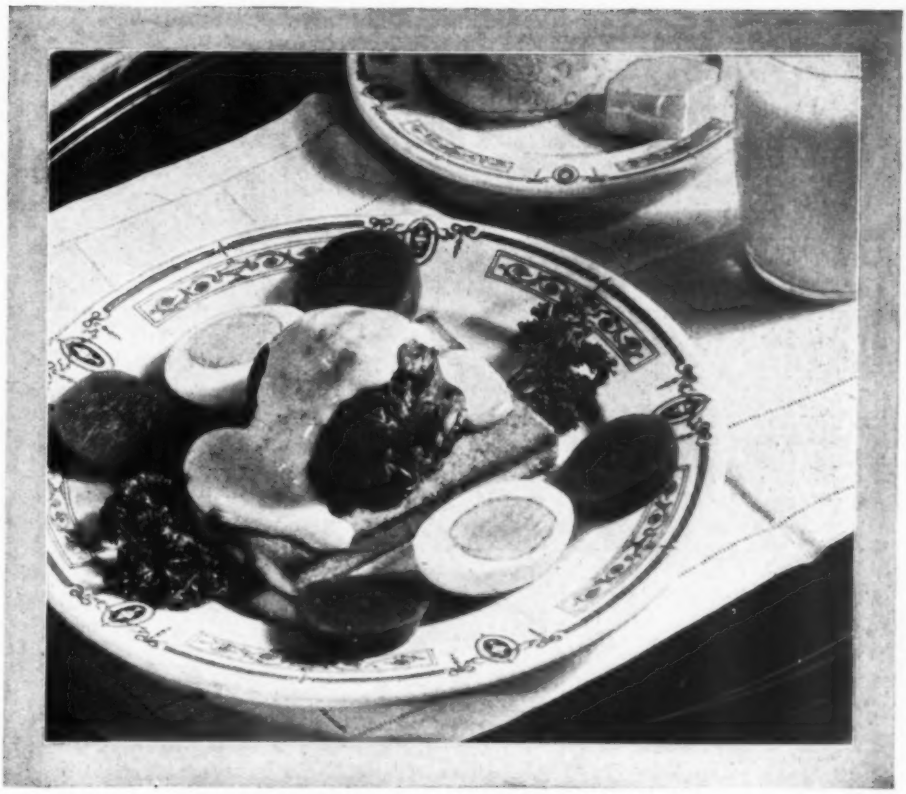
Make nest in individual serving of buttered Libby's Spinach. Drop in a poached egg. Garnish with strips of cooked carrot

A novel Spinach Salad

An unusually attractive salad for your trays. Chop Libby's Spinach. Marinate with French dressing. Mix with chopped celery. Garnish with Libby's Asparagus Tips and parsley

Popular in the Men's Ward

For a hearty and nourishing luncheon dish in the Men's Ward: serve Libby's Spinach au gratin with brown sauce



Buttered Spinach on Toast (see recipe above)

For patients who *shy* at spinach

—savory new dishes that beguile fussy appetites

All too frequently, perhaps, you find patients with a dislike for spinach. But how to win them to this mineral- vitamin-rich food?

Many prominent dietitians now solve the difficulty quite simply: they serve a particularly delicate, tempting kind of spinach—Libby's—in such unusual ways as those suggested above. Spinach dishes, brimming with fine flavor—so wonderfully good they win new converts daily.

Buttered spinach on toast is one of these enticing dishes. Smooth, fine-textured Libby's Spinach, aglow with the liquid gold of melting butter, molded hot on thin, crispy-brown toast, with white sauce over all. A dash of summery freshness—colorful richness—flavor that is irresistible!

Libby grows this superfine spinach in California. Crisp, young, crinkly leaves with a genuine garden-fresh zest. Trimmed, then tumbled for hours in water that is cool and crystal clear. Packed the very same day in Libby's own sunlit kitchens overlooking the fields.

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Pork and Beans
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Pickles, Mustard
Bouillon Cubes
Beef Extract
Catchup, Chili Sauce
Salmon
Evaporated Milk
Mince Meat
Boneless Chicken

nurses. Boards of new hospitals are beginning to give exceedingly careful thought to the question, 'shall we have a school for nurses or a graduate service?' A proper balance will be maintained only if the nurses themselves develop real pride in nursing skill—a skill that is founded on knowledge, blended with sympathy and applied with pride in the power to deal skillfully with problems of prevention and cure."

In closing, may I quote Sister Domitilla, St. Mary's Hospital, Rochester, Minn., our pioneer in the field of an integrated nursing staff:

"We have found after seven years' trial that group nursing has stabilized the nursing service and made for order and regularity in the hospital. The burden of the director of the school of nursing is materially lightened by it. She knows at all times exactly how many nurses she is privileged to employ, and she has freedom in meeting the constantly varying needs of the hospital for whose nursing care she is responsible. She has the intense satisfaction of knowing that her patients are being properly nursed, and she knows that the education of the student nurse is not being sacrificed to the ever increasing needs of the hospital and its patients. The program of group nursing has not only been a feasible one, but it has proved a satisfactory one."

While there is perhaps a natural resistance to the idea of radical change in the minds of almost all of us concerned in this problem, there is nevertheless a gradually increasing acceptance of the principle of organized nursing service as a necessary solution to the problems of providing satisfactory nursing care to the moderate purse.

We must recognize that some experiments in organized nursing have been unsuccessful. In recognizing this, however, we must not lose sight of the fact that as organized nursing is essentially a profit sharing enterprise calling for mutual respect from each of the participants, success is conditioned on team work and a sense of sportsmanship.

Some Requirements for a Good Nurses' Home

In a paper read at the annual convention of the British Hospitals' Association held recently at Southport, England, Margaret Sparshott, superintendent of nurses, Manchester Royal Infirmary, England, gave some of the desirable qualifications for a nurses' home.

The nurses' home, she pointed out, should be in close proximity to the hospital but far enough away so that there will be no danger of the nurses disturbing the patients in the hospital during their hours of leisure. Recreation, class and study rooms must be provided which will be large enough to meet the demands of the school. Rooms should also be provided where the nurses can spend their spare time either in rest, study or entertaining guests.

One good feature in many nurses' homes is that separate sitting rooms have been provided for student nurses and staff members. These should be comfortably furnished and well lighted. A kitchen should be provided so that refreshments may be prepared for parties. Swimming tanks are, as a rule, much appreciated by the nurses as it is seldom that they have the opportunity to engage in this sport elsewhere. Tennis is always a popular sport among nurses, and the provision of tennis courts is bound to meet with popular approval. In the recreation room it is advisable to install a piano, and occasionally to engage a pianist to entertain the nurses.

The provision of a library in the nurses' home not only gives the nurses a good place to pass their leisure hours, but encourages the reading of good books and the study habit.

Each nurse should have a room of her own comfortably furnished, with a lavatory in the room and a bathroom near by. The staff members and officials of the school should have more spacious quarters; generally a suite of two or three rooms is satisfactory.

Some means must be provided for the nurses to do their laundry, or to have it done satisfactorily.

Is Specializing Among Nurses Due to Incomplete Training?

It is a common occurrence for a doctor, when inquiring for a certain nurse to take a case, to be informed that that nurse is registered for certain kinds of cases only, and that she could not be induced to take his case. This, according to May Ayres Burgess, director, Committee on the Grading of Nursing Schools, New York, may indicate one of two things, either that the nurse's education along some lines has been neglected so that she is afraid to venture on unfamiliar ground, or that she has found certain kinds of work interesting and profitable and intends to specialize in that line.

"Too often," the committee director said, "the reason is that the hospital in which she received her training trained only with its own interests and facilities in mind, and made no attempt to train the student nurse according to the kind of work she might wish to follow after graduation."

Through this neglect on the part of the hospitals, it is found that graduates from children's hospital training schools often refuse to work with adult cases; graduates from maternity hospital schools will specialize only in maternity work; others refuse male cases, and still others refuse contagious disease cases. This may or may not be beneficial to the nursing profession as a whole, Dr. Burgess points out, but it most certainly causes a restriction in the number of nurses who can be depended upon for emergency calls of any nature.

Medical Women in England Refute Argument of Hospitals

The argument that there is a so-called wastage of 50 per cent by marriage among women physicians is back of an effort on the part of London hospitals to exclude women medical students, according to the *Journal of the American Medical Association.*

The Medical Women's Federation decided to find refutation to the argument through investigation. The investigation revealed the majority of women physicians still active, only a small percentage having retired, and then after many years of service.

Some of the more ardent feminist sympathizers have suggested that if supporters of the hospitals withheld their subscriptions the dissenting hospitals might be won over. The Federation, however, disapproves of these tactics and "deprecates any attempt to put pressure on the hospitals concerned by urging subscribers to withdraw their subscriptions."

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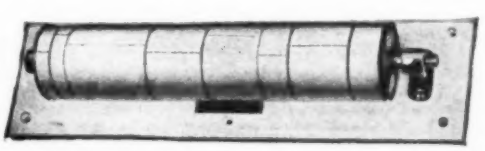

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OUT-PATIENT SERVICE

Conducted by MICHAEL M. DAVIS, Ph.D., Executive Secretary, Committee on Dispensary Development, United Hospital Fund of New York, 151 Fifth Avenue; New York
A. K HAYWOOD M.D., Superintendent, Montreal General Hospital, Montreal, Que

Determining the Ability of the Patient to Pay for Medical Care*

MEDICAL service in hospitals and clinics needs to be regarded from four points of view: that of the patient who needs certain medical service; that of the community interested to see that patients secure what they need even if they are unable to pay for it; that of the physician who is the main professional agent in rendering medical service; that of the hospital or clinic, the institution administering the service.

In determining the ability of patients to pay for medical service three primary elements are to be considered: the income of the patient or family considered on an annual basis; the size and constitution of the family, affecting as these do, the necessary expenses; the cost of the medical service required by the patient.

Emphasis needs to be laid on considering irregular or seasonal earnings in the estimation of annual rather than monthly or weekly income. Supplementary as well as main sources of income should be included, and debts and other financial obligations should be ascertained. The paying ability of a family is substantially affected by its constitution. A family of adults, for example, differs decidedly in its needs from one with the same income composed of parents with several young children. Elderly parents or relatives who must be supported may have to be considered as part of the family group even though they live elsewhere.

The diagnosis of a disease may cost, at private rates, from a few dollars to several hundred dollars. The cost of treatment varies even more widely. Obviously the ability of a patient to pay depends not so much upon his financial resources as upon the relation between his resources and the cost of the service required. The duration of an illness must also be considered both as affecting expense and also as causing loss of income if the patient is a wage earner.

In estimating ability to pay, all three factors of income, constitution of family and cost of service must, of course, be considered together.

Patients who, judged by these standards, are able to pay for private care should be referred thereto. Other patients when admitted to the clinic should be treated free if they are unable to pay the usual clinic fees.

In addition to the statement of these principles, a number of practical considerations should be indicated.

The determination of a person's ability to pay for medical service is important, not only to decide whether a person or family is eligible for free or charitable service but also—in many hospitals and clinics—to determine what rate of a graded schedule of fees the patient can fairly be asked to pay.

In the practical admission of patients, budget schedules are sometimes prepared aiming to show what income families of various sizes should have to measure up to a reasonable minimum standard of living. Such schedules are somewhat useful in determining ability to pay but the situation of families varies so widely and the varying cost of treatment introduces so many complications that such schedules should serve only as suggestions, not as definite guides.

Patients ordinarily able to pay for private medical care may be temporarily in the clinic or ward group because of accident or misfortune. Patients may be able to pay for private care or full hospital rates for a minor or short illness, whereas for a major operation or for an illness requiring specialized or expensive service they would fairly receive care at reduced rates or free in a hospital or clinic. On the other hand, the paying ability of a family may be increased by judicious budgeting or arrangements for time payments.

Skilled Admitting Clerk Needed

Great stress should be laid on the importance of having a skilled person in immediate charge of the admission of patients. The qualities needed are tact, business sense, training and experience in interviewing and managing people and knowledge of living conditions and community resources.

Certain medical situations such as emergency cases and cases of communicable disease override financial considerations and require the admission of the patient for at least one treatment.

The rejection of applicants for admission to clinics, because they can afford to pay at private rates for the medical service their condition requires, raises the question as to how such patients shall be referred to private care. It is generally found that many such cases have no regular family physician and do not appear to know a qualified practitioner. Each institution should adopt

*A statement prepared by Michael M. Davis, New York, for the Public Health Federation, Cincinnati.

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for itself a definite procedure according to which the admitting officer shall inform the patient of the name of a physician or of a list of physicians approved by the staff or by the authorities of the institution.

In the administration of admission systems it is desirable that every opportunity be given to physicians, whether or not they are members of the institution's staff, to call the attention of the admitting officer, or of the superintendent, to cases whose circumstances they believe have been judged incorrectly. Complaints of this sort should not be made in the presence of patients. The administration of the institution should accept the responsibility of investigating every such complaint and of informing the physician of the findings.

It is desirable that a central committee representing the medical profession through the Academy should be ready to consult with officers of medical institutions or of social agencies regarding these matters of policy or concerning cases that have caused complaint.

It is desirable that a group representing the administrative authorities and admitting officers of all clinics in the city shall meet systematically for mutual information for the adjustment and advancement of standards and methods, and for joint discussion, when necessary.

Hospital Serves Public Through Health Talks

How Misericordia Hospital, Philadelphia, is serving the public through health talks by the members of its staff, is told in *Hospital Topics and Buyer*. The health talks arranged with the cooperation of the city health department are given in the evening and are attracting numbers of persons interested in health education.

The program deals in as untechnical a manner as possible with the study and control of the types of disease of vital interest to the layman, such as child welfare, the prevention and control of contagious diseases, the prevention and control of cancer and similar subjects.

An effort is made to get at the heart of the prevention and care of disease and to bring about better cooperation between the community and the hospital, a move that seems to be meeting with success from the start.

A Clinic on Wheels—How It Serves the School Children of Alberta*

MORE than 2,000 patients in forty different points in the Province of Alberta were served during the summer of 1927 by one group of doctors and nurses traveling from place to place and carrying their equipment with them. The Alberta department of public health carried on this work in cooperation with local school boards and physicians.

The plan was this. School boards were asked to organize into groups of not less than five school districts to form a unit, and to appoint a committee representing this group. A trained public health nurse was sent in advance of the clinic to each school to make a health inspection of each child. Where defects were found a card was sent home to the parents.

The best schoolhouse or community hall in the district was chosen for use as the temporary clinic. The people were responsible for the local organization and for building and janitor service during this period. The local doctors were invited to cooperate.

A total of 690 school districts organized into 122 centers requested the service but, because only one clinic unit was in operation, forty points were all that could be reached during the five and a half months the clinic was in operation.

The staff of five was headed by a surgeon, with an assistant to help in diagnostic work and to give anesthetics. The other members were one dentist and two nurses. They moved from place to place by automobile, carrying with them as much mobile equipment as could be conveniently transported: collapsible operating table, sterilizer, suction apparatus, laboratory equipment, a dental chair and essential dental equipment.

The time spent at each place was not less than two days and not more than five. Two days was the rule with the third day for moving and Saturday for rest and recreation for the staff.

The following figures indicate the type of work and the number of individuals and centers reached: clinics held at different points, 40; schools served, 285; patients examined, 2,346; tonsil and adenoid operations, 663; circumcisions, 89; minor operations, 20; prescriptions and treatments, 582; dental patients examined, 2,575; treatments, 796; extractions, 1,311; prophylactics, 73; fillings, 477.

Children were given a careful physical examination in the presence of one or both parents who were advised as to the maintenance of the child's health. For conditions found to require attention over a considerable period of time they were referred to the local physician. Patients requiring special orthopedic advice were referred to the orthopedist in charge of the Provincial Special Hospital, Edmonton.

Charges made for the work done were practically sufficient to cover the costs of operation. Physicians, surgeons and dentists were paid a monthly salary so that the fees went directly to the clinic. A charge of $15 was made for tonsil and adenoid operations, fifty cents for dental fillings, one dollar for teeth extractions and two dollars for physical examinations. Where patients were not in a position to pay for the necessary services no charge was made.

So successful was the work of this traveling clinic that in 1928 two diagnostic clinics with a surgical team operating between them were sent out and were able to double the amount of work done during the preceding summer.

*Information furnished by the Hon. R. M. Bow, Deputy Minister of Health, Edmonton, Alberta.

More Service for Middle Class Sought in England

A crying need for adequate medical and surgical treatment for middle class patients exists in the voluntary hospitals of England, according to the facts set forth by Sir Thomas Horder in a paper read to the members of the British Hospitals' Association at its eighteenth annual conference held in Southport, and reported in the *Hospital Gazette*.

"In London," Sir Thomas pointed out, "there is no alternative between the general wards of the large hospitals and the private nursing homes, where often enough, the cost to the patient is absolutely prohibitive. This state of affairs is much the same in large centers throughout the country."

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Conducted by C. W. MUNGER, M.D., Director,
Grasslands Hospital, Valhalla, N. Y.

Do Your Sterilizers Always Sterilize?

By W. HARGREAVES
Vancouver, B. C.

THE investigations described in this article were made for the purpose of explaining some of the abstruse occurrences that frequently perplex the supervisors of hospital sterilizers. The investigations consisted of an exhaustive series of experiments that were prompted by an impulse to find the reason for the untoward events of common incidence in the operating of sterilizers and of autoclaves in particular.

It was found following visits to a number of hospitals that the operating of autoclaves was largely a matter of mechanical routine performed by the attendant in accordance with a set of rules. The rules, however, were found not to meet all contingencies and sometimes irregular conditions would arise for which there was no obvious reason. A recurrence of the same kind of trouble in different hospitals suggested the question: "What actually happens inside an autoclave during the sterilization process?"

An answer to this question appeared to be essential for the fuller instruction of the operator and the greater assurance of accuracy by explaining why untoward incidents do happen, how they might be avoided or overcome and how easily one may be mislead unwittingly, with disastrous consequences either to the surgeon, to the patient or to both.

Sterilization Must Be Positive

Since sterilization has become an integral part of hospital practice and is considered a necessity to successful surgical technique, it follows that operating room and dressing room sterilization must be positive, without a suspicion of doubt.

The last phase of perfect sterilization and sterilizing apparatus has perhaps not yet been devised, and until then there will be possibilities of error and of misapprehension in the operation of sterilizers. The fact that such possibilities may be obscure and that actually an article that has apparently been properly sterilized may yet remain dangerously unsterile, emphasizes the necessity of constant watchfulness.

To what extent successful surgery is dependent upon sterile dressings is amply demonstrated by a comparison of the present day practices with those in use when Lister introduced his revolutionary methods. Then, sepsis was king and dread and horror were constant in hospital practice, but antiseptic surgery followed by aseptic surgery ushered in a new era of medical achievement in which it is indubitably recognized that sterilization is essential to successful operations and treatment.

Yet occasionally there occur postoperative septic complications after perfectly performed operations during which the most rigid regard has been paid to correct practice both in operating room technique and in sterilizing room methods. Although such instances are rare, is it unreasonable to inquire if the equipment and the dressings that the surgeon used were what he and all others concerned believed them to be—that is, perfectly sterile? Did the sterilizers actually sterilize?

Gauge May Be Misleading

Whether or not a sterilizer sterilizes as it appears to do, is a proper question and is pertinent to the success of the surgeon and the welfare of the patient. To ask any dutiful supervisor, "Do your sterilizers always sterilize?" would doubtless evoke the reply, "Certainly. Everything is properly checked. The gauges and the charts demonstrate when the sterilizing is quite correct." Apparently the manipulation of the apparatus would be accurate according to the indication of the steam gauge or the recording chart. But even the perfectly balanced gauge is not able to tell the observer all that occurs inside the autoclave. There are possible conditions within a sterilizer that may occasionally controvert both the needle of the gauge and the recording chart. A margin of difference always exists which should be and usually is provided for, yet as affected by circumstances, that margin is sometimes greater than the proviso and it is then that supposedly sterile articles become an unrecognized menace, dangerous to the welfare of the patient and to the reputation of the surgeon.

The bacteriologist, the chemist and the engineer have all labored and are yet laboring to devise the best means of thwarting sepsis, until now antiseptics and aseptic systems can almost but not quite be reduced to a stereotyped set of formulas and practices. It is in this incompleteness that danger lurks.

In the instructions about operating an autoclave it is a general thing to give the nurse in charge a set of rules

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or verbal directions on how to read the gauges and how and when to open and close a series of valves. She is cautioned never to let the cylinder get dry, and told that by obeying these rules and precepts all the contents of the sterilizer will be sterile. The latter is not an inevitable consequence, although it is generally taken for granted that it is and will continue to be sterile. In any other department of the hospital nothing of so great importance is taken for granted.

Autoclave sterilization by steam is an engineering process with a scientific object both simultaneously involved in the approved method of destroying bacteria. The nurse in charge may be a good bacteriologist but not being an engineer, she may have only a vague impression of what actually happens inside a sterilizer. The gauge is her guide and if the gauge is mechanically accurate the possibility of error is not questioned. She may reason that since the gauge has performed correctly, the sterilizer is in perfect condition and that, therefore, the dressings within the sterilizer are properly sterilized. That does not, however, do away with the fact that under certain circumstances, no matter how sensitive the gauge, it may be misleading, or, to put it in another way, bacteriologically wrong.

Determining Agents Should Agree

Some hospitals frequently use sterilizer tests or controls as a means of confirming the gauges and the recording charts, but when these do not coincide, what then? It would seem logical to say that the gauge showed the required steam pressure, and the chart legibly confirmed it. Therefore the inaccuracy was in the "test" or "control." That is a fallacy. There should be agreement in the three determining agents—the gauge, the chart and the control. Any difference between these denotes the margin of inaccuracy within the sterilizer, and that margin may mean all the difference between safety and danger, between asepsis and sepsis, between a patient's "making a good recovery" and "having septic complications."

What actually happens inside a sterilizer? If it is a fact that a gauge records the necessary temperature of 260° F. and the test control within the sterilizer still remains unaffected, how does this come about and why the difference? Several things occur within a sterilizer any or all of which will contribute to this cause and may do so without being detected. Moreover, when such a thing has happened once it is likely to happen again with more or less frequency. A huge battery of sterilizers is operating daily in North America and in one or the other of these this very thing may occur with unfortunate consequences. Such possibilities are more than imaginary, since they came under observation on several occasions and prompted the impulse to find out by a series of set tests the inner workings of a sterilizer during operation and thus discover the margin of inaccuracy and danger apparently existing.

It should be stated that the following experiments were performed in a cylindrical type of sterilizer such as is operated with a three-way valve handle, (a) to let in steam, (b) to produce a partial vacuum, (c) to exhaust the steam; that it was equipped with a gauge on the jacket and another on the chamber and that these gauges had double graduations showing the relationship of steam pressure to temperature. It also had a drip pipe towards the front of the sterilizer by which condensation could be removed from the chamber. The apparatus was a 1922 model and although since then improvements have been made in the later designs, it may be safely asserted that there are thousands of sterilizers of similar or older models destined for many more years of service, in all of which the troubles herein discussed are possible and may be occasionally encountered.

The experiments are recorded in the order performed, while the comments are based on the cumulative evidence produced by the whole series.

Test 1. Operation of a standard sterilizer according to general rules.

A test control was placed in the center of a bundle of cotton towels. The bundle 10 inches long and 6 inches in diameter was placed in the center of the sterilizer. The operations were as follows:

1. Steam was developed in the generator and jacket to 20 lbs. (260° F.)
2. A partial vacuum of 10 inches was obtained within the inner chamber and held for three minutes.
3. Steam was let into the inner chamber, both gauges indicating 17 to 18 lbs. pressure. The pressure was increased to 20 lbs. and maintained at from 19 to 20 lbs. for thirty minutes.
4. The condensation drip valve was opened six times within the thirty minutes.
5. The steam was evacuated from the chamber.
6. A partial vacuum of 10 inches was obtained.
7. The vacuum was released and the sterilizer opened.

The result was that the test control showed positive with all indications satisfactory. When the sterilizing temperature in the center of the bundle was determined, the technique was found to be correct.

Test 2. Operation of sterilizer without a vacuum.

The same bundle (cooled) with a similar test control was placed in the same position as in the first test, the center of the sterilizer. The operations were the same except that obtaining a vacuum was omitted. As a result the test control was only partially affected, and the indications were not altogether satisfactory. It was thus deduced that all other things having been equal the omission of a vacuum left something that resisted steam penetration.

Test 3. As in Test 1 with a different position of the bundle.

The bundle with the test control was placed immediately within but not touching the sterilizer door. The operations corresponded exactly to those in the first test with the same satisfactory result.

Test 4. Test 3 repeated but without a vacuum and without opening the condensation drip valve.

The result showed the test control negative and not even slightly affected. The indications revealed were unsatisfactory and dangerous, thus confirming the deduction of Test 2.

Test Findings Are Important

The findings of this test are important. They demonstrated that the temperature adjacent to the door appeared to be cooler than that indicated by the gauge, the control not having melted while the gauge showed 260° F. To remove any doubt of the accuracy of the test control this was subjected to exposure at varied increasing temperatures and found to be correct.

Test 5. Regular operation with two drums in marked positions.

Two metal sterilizer drums were packed with gauze pads, with a test control in the center of each drum. One drum was placed at the rear and one at the front of the sterilizer. They were operated exactly as in Test 1 with a partial vacuum. The result was positive in both drums with satisfactory indications.

Test 6. Test 5 repeated but without vacuum and condensation drip.

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Extractives	0.7	1.0
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	100.0%	100.0%

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		Dry Basis
Dextrin	36.0%	48.3%
Maltose	22.0	29.5
Dextrose	7.4	9.9
Sucrose	9.0	12.0
Ash	0.2	0.3
Water	25.4	
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This experiment being made for comparison with test 4 the operations were exactly as in that test. As a result the test control in the rear drum was partially affected, while the one in the front drum was unchanged. The indications were set down as unsatisfactory.

This test demonstrated a hazardous condition. If only one test control had been used and that within the rear drum, there would be a possible inference that both drum contents were sterile. As a fact the contents of the drum near the door had not been sterilized. Still further investigation of this phenomenon was next made with different test controls that were proved to have a definite melting point of 250° F.

Test 7. Test 6 repeated with different control agents that melted completely at 250° F.

The procedure followed was exactly as in Test 6. The result was that while the control in the rear was melted, the control in the front drum was not melted. It must then be concluded that there was a difference in temperatures within the two drums caused by greater resistance to steam penetration in one drum than in the other, due possibly to location, and that there was certainly a difference of more than ten degrees between the gauge which showed 260° F. and the front drum which showed less than 250° F.

Position May Affect Temperature

It is possible at this stage to draw clearly defined inferences. First, that different positions within the sterilizer may have different temperatures and that under certain conditions these positions differ from the temperatures shown on the gauge; second, that under certain conditions the penetration of steam is resisted so much that even with 20 lbs. pressure the steam did not reach the center of the bundle within the time of normal sterilizing (thirty minutes); third, that the probable resistant was air pockets formed within the drums and that these air pockets could be accentuated because the steam was practically immobile due to the fact that the condensation drip valve was kept closed.

Test 8. To verify in more detail the previous tests.

In this test three packages, one drum and two bundles, were used, each containing two test controls one of which was colored red (M. P. 260° F.) and the other green (M. P. 250° F.) One bundle was placed at the rear and one in front with the drum in the middle. The operations were exactly as in Tests 2, 4, 6 and 7, without a vacuum, without the condensation drip and with the gauge showing 260° F. for thirty minutes.

While the green tube in the rear of the bundle melted, none of the other five tubes was affected.

This test did not prove anything beyond what was already discovered, although it confirmed the previous tests and gave emphasis to the inferences following Test 7.

Test 9. To prove the five test controls remaining from the previous test.

The controls were replaced with packages in the same position as in Test 8. The operations were similar to Test 1 with a vacuum. The result was that all tubes melted.

The question now arises: What period of time elapses before steam at 20 lbs. pressure thoroughly penetrates a package within the sterilizer and what difference is there in time penetration between the two processes, with and without a vacuum, and without opening the condensation drip valve?

Test 10. Timing steam penetration with a partial vacuum.

One bundle and one drum were used each with a 260°

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M. P. control. Operations were the same as in Test 1 with a 10-inch vacuum followed by 20 lbs. pressure. In this test the condensation drip valve was left slightly open upon the entrance of steam, thus providing for a constant movement of the steam. After three minutes' exposure at 20 lbs. the steam was shut off and evacuated from the chamber with the sterilizer opened.

Neither test control was affected. The same procedure was then repeated with a five-minute exposure. As a result of the longer exposure both controls melted which indicated that the steam penetrated both the drum and the bundle under favorable conditions within from three to five minutes.

Test 11. Timing steam penetration without a vacuum.

The condensation drip valve was kept closed during all exposures. A series of timed exposures of progressive periods of five minutes were carried out, as in Test 10. An exposure of thirty-five minutes was required to melt the control in the bundle while another exposure of forty minutes was required to melt the one in the drum.

Air Retards Steam Penetration

The conclusion reached was that the presence of air (atmosphere) within the sterilizer retards steam penetration through packages a longer time than is normally adopted for sterilization. Some parts of the packages used would doubtless be sterilized while the inner parts probably would not be. Yet the gauge showed 20 lbs. steam pressure and the period was much in excess of that in general practice. Without the evidence of the controls the operator would have been deceived even though the gauge was accurate.

Another question prompted a test. Does the condition of a bundle affect penetration?

Test 12. Timing penetration through moist packages.

A drum was packed with moist gauze and the wrapper of the bundle was also dampened. Operations similar to Test 11 were followed for forty-five minutes but the controls were not affected.

Other tests were made but these twelve show the main points of discrepancy between a sterilizer that does not sterilize and one that does. From them we can deduce rules of observance to supplement the operating rules supplied by the manufacturer of the apparatus.

1. The elimination of all atmosphere from the sterilizing chamber is primarily essential.

Trapped atmosphere will often occur within the closed chamber when steam is injected, and thus will form air pockets. Air pockets may happen anywhere within the chamber, but more particularly are they probable within bundles and drums and in tightly surrounded crevices among the bundles. Drums and bundles should not be tightly packed and impervious wrappings should not be used in making bundles. All are conducive to the formation of air pockets. Air pocket is an indefinite term but it is understood to mean air in any area, no matter how small or how large, that resists penetration of steam. Where steam cannot penetrate, there bacteria may exist and sepsis ensue. Every air pocket is fraught with danger and is a subtle deception because it may happen in a major portion of sterilized dressings.

The partial vacuum produced by a reduction of ten inches of air pressure removed only about one-third of the atmosphere. Such a partial vacuum made a marked difference in the time required for the steam to penetrate, as was demonstrated in the experiments, but partial elimination leaves an element of doubt and even this reduced risk should be entirely nullified.

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of air pockets and obviate many other doubtful conditions and misleading presentations. When air remains in the chamber the pressure gauge cannot accurately indicate the temperature. Herein lies a possible deception. For instance, the gauge may show fifteen pounds of pressure and this would be approximately 250° F., but if air is present the temperature will be lower than the gauge indicates. Relative to the amount of air present the temperature will be proportionately lower than the 250° F. shown on the gauge. The gauge is intended to show the temperature of steam only, not of a mixture of steam and air. This explains the disparities between the inside temperature and the gauge that were observed in some of the experiments.

Modern Autoclaves Have Ejector Valve

Manufacturers have now generally recognized the importance of this, and are equipping modern autoclaves with an ejector valve, displacing the drip pipe, to accomplish total evacuation of atmosphere. Ejector valves should serve a triple purpose: (1) to remove all air, (2) to exhaust the condensation, and (3) to provide for a regulated movement of steam. It would be well to investigate the possibility of attaching an efficient ejector to old sterilizers. If the sterilizer is not equipped with an ejector then the drip valve should always be left slightly open to serve as an outlet through which the air can eventually be forced.

2. Immobile steam is not as effective as steam that is in motion. If it were possible to close tightly all outlet valves and prevent all leakages, thereby rendering the steam stationary, a much longer period would be required for complete sterilization. Moreover, possibly as shown in Experiment 11, some parts would not be sterile even if the pressure was continued over a long period. Conversely, when the steam is in motion, it passes through every pervious tissue and fiber. With the steam penetrating and permeating every part there is no place for air pockets to persist and sterilization is effected not only on the surface but also within every thread of the dressing and wrapper.

Condensation on the door lends itself to this required movement of steam, but that alone is only slight and not entirely effectual. By opening the drip valve slightly or by the action of an ejector a regular, graduated movement may be maintained throughout the whole sterilizing period.

3. Due allowance should be made for the lower temperature in the position adjacent to the door. The margin of safety should never be too finely reduced to allow this area to become a danger zone. For the same reason anything within the sterilizer should not be within an inch of the door when it is closed.

The difference in temperature between this location and other parts is due primarily to the absence of protection or steam insulation at the door such as is provided for the other walls of the chamber by the encircling steam jacket. Hence, because the door is the coolest point, condensation will occur on the inner surface with a resultant lower temperature. This will be more pronounced if the sterilizer stands in a cool, draughty place.

4. The preparation of bundles and drums and the charging of the sterilizer are important features in good technique.

Bearing the observations on penetration and air pockets in mind it is obvious that bundles should be made up loosely and that they should not be bulky; that drums in particular should not be packed tightly and that the vents should be open. Cold and wet bundles or wrappings should

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be avoided. Wrappers of impervious or semi-impervious material should positively never be used. Overloading or wedging the packages together too compactly is risky; a tightly packed sterilizer is bad technique. Nothing should be in contact with the door, nothing should block the ejector or drip outlet and, at the other end, the steam inlet should also be free from obstruction.

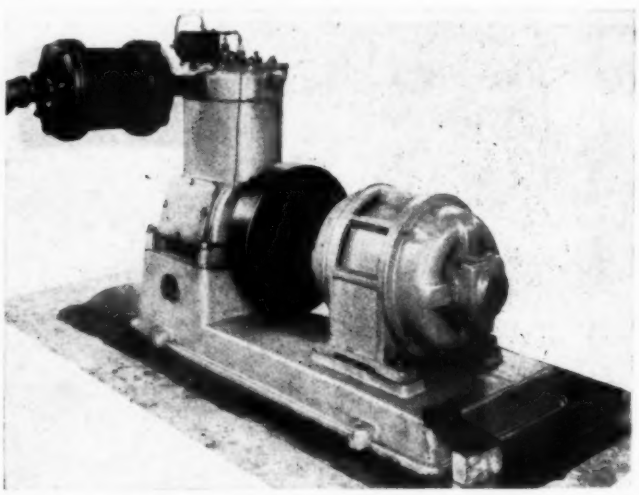
It is assumed and generally accepted that the thermal death point of all bacteria and spores under steam sterilization is 250° F. Less may be sufficient, but 250° F. of steam exposure for thirty minutes is accepted as sure sterilization.

The commonly prevailing practice of twenty pounds pressure (260° F.) provides an ample safety margin if it is maintained throughout. With this as an axiom it is required that the steam shall positively pass through every fiber of every piece of dressing to insure certain sterilization of the whole. Penetration is the maxim. Without it there is danger because despite appearances the sterilizer then does not actually and completely sterilize.

An Effective Air Compressor Discharge Silencer

The small high speed air compressor has a tendency to make a rather loud noise in the receiving tank on the discharge side of the compressor. This noise is created by the rapidity with which the discharge valve of the compressor seats at the end of the compression stroke. Tests have shown that the noise is not mechanical but is an air phenomenon. The noise is loud enough to penetrate the walls of the receiving tank and some of the piping, because the air in which it exists is at high pressure and consequently of greater density.

A new type of silencer has been designed to go in the discharge pipe of the compressor directly after it leaves the compressor. It will pass the compressed air with



negligible resistance, but it eliminates the discharge noise to a point where it can hardly be heard. This noise resembles a hammering or rapping sound and can be annoying in certain locations.

The silencer is extremely simple, small, and easy to install. There are no parts to get out of order, and connection to and from the silencer is made by means of a standard pipe thread, one at the center of the inlet head and one at the center of the outlet head. The silen-

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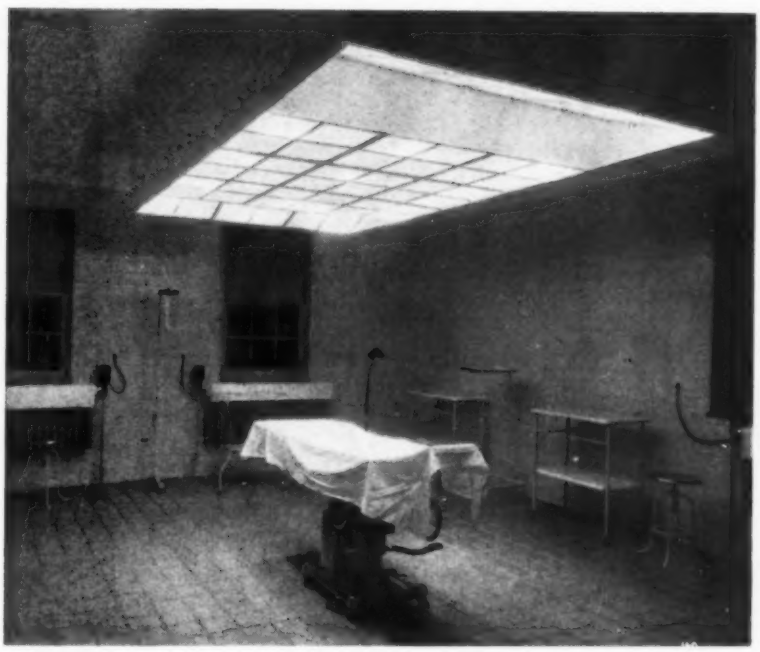

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cer casing is designed for 125 pounds per square inch working pressure.

The use of this silencer will allow the installation of small, high speed, inexpensive compressors in places where quiet operation is absolutely essential. The receiving tank can now be placed wherever it is convenient, and with this new type of discharge silencer, with the suitable silencer on the intake of the compressor, the noise problem is solved.

High Pressure Steam Valve Shows Fine Workmanship

A new bronze valve with a renewable resilient disc built to withstand 250 pounds of steam working pressure has been added to the line of steam fittings. The disc, being more resilient than the metal, readily conforms to the seat and insures a tight valve without regrinding.

The new line comprises the globe, angle, cross and horizontal and angle check patterns, supplied screwed or flanged in sizes ranging from one-fourth of an inch to two inches. The globe, angle and cross patterns are furnished with renewable seat rings. The bonnet of the valve screws over the body, a feature that adds strength. The bonnet seat joint is rounded, a construction feature that adds strength, assures a tight fit, and at the same time allows easy removal of the bonnet.

Other features of the globe, angle and cross patterns include the nonheat hand wheel of malleable iron; the bronze gland, which aids in preventing leakage around the spindle; the deep stuffing box generously packed with asbestos ring packing, and the manganese bronze spindle with large, powerful threads, all of which are in contact with the bonnet threads when the valve is closed.

Fiber Dish Is Newest Contribution to Dining Room Equipment

A strong white, sanitary fiber plate supported on a metal tray is the newest contribution to the health idea. The fiber is especially treated so as to assure its perfect sanitation and is tough enough to make it practical.

The idea for such a dish was conceived during the World War. The epidemic of influenza was at its height taking toll not only of civilians but of thousands of men in army training camps. Medical officials in the army suspected that much of the spread of the disease was due to the insanitary conditions of the eating utensils and of mess kits in particular. They knew that germs could be killed only by sterilization. This meant placing the dishes in live steam under pressure for three minutes or in boiling water for a longer period.

As a test certain companies were fed only from sterilized dishes. Among them influenza cases were exceptionally few, even with the disease raging in camp. This proved conclusively that the disease was largely spread because of the insanitary eating utensils used.

A substitute was sought and the answer is the new dish, a convenient fiber tray divided into sections for different foods, on a metal tray. After it is used once it is thrown away. There is no breakage. It saves a great deal of time in that there is no washing of plates and side dishes, and the noise always attendant upon dishwashing is eliminated.

This durable wall and floor material has proven *its economy . .*

FOR every day immaculacy of hospital walls and floors no material compares with Keramic Tile. One sweep of a damp cloth and walls are again bright and shining. Ordinary mopping keeps floors spotlessly clean and sanitary.

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Keramic Tiles last for the life of the building. There are no repair bills. No maintenance expense with walls and floors of tile. Scientific tests have proven Keramic Tiles to be *the most economical material* obtainable for hospital floors and walls.

Absorption tests show that Keramic Tiles do not increase in weight while other materials gain from 6 to 25%. Tested for abrasion, Keramic Tiles showed decreased weight of only 4.5% while other floor materials lost from 16 to 72%.

Keramic Tiles are impervious to chemical action, light and heat. They are non-odorous. They do not stain. In every way do Keramic Tiles meet the strict requirements of modern hospital usage.

You derive the greatest benefit from Keramic Tiles when the tiles are set by experts. Their skilled workmanship is instantly apparent. Select your tiling contractor on the quality of his work.

Durableness, cleanness and economy beckon your attention to Keramic Tiles when considering floor and wall material to use in your hospital. And remember the permanence of Keramic Tiles—real tiles—*their first cost is the last.*

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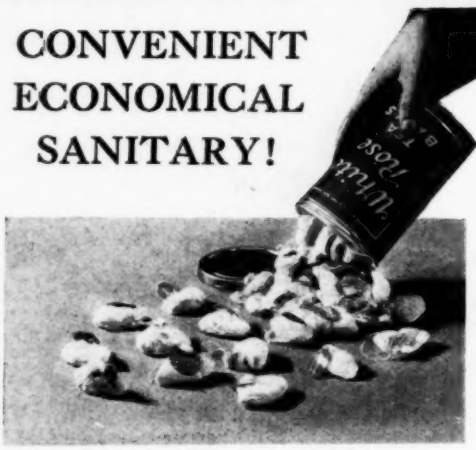

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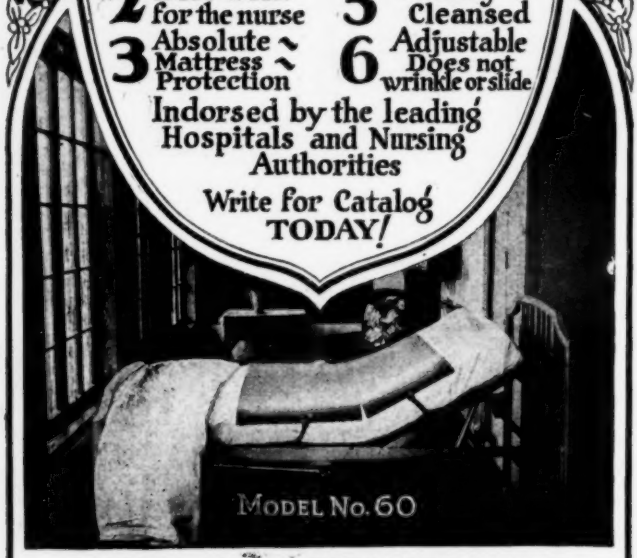

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Sectional Construction Is New Feature in Metal Bedroom Furniture

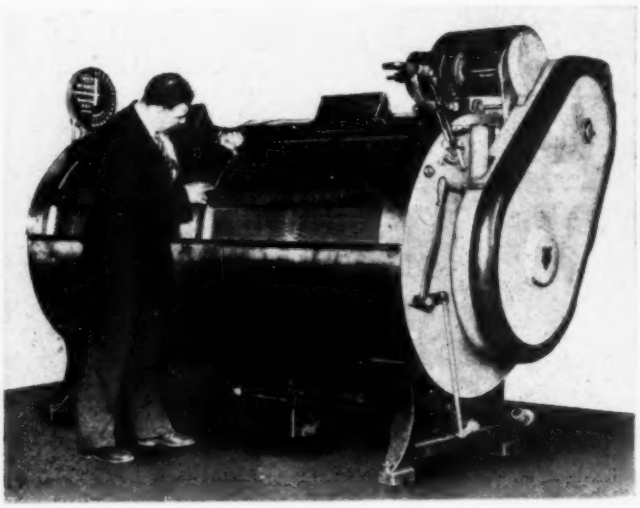
One of the greatest advancements that has come forward in the manufacture of metal bedroom furniture is a new sectional construction feature. Under this method of construction, each piece, dresser, bedstead, chiffonier, vanity table, desk, night table, armchair or chair, is an assembly of unit parts. This sectional construction is a tremendous advantage for it affords the quick and economical replacement of any part or section.

This new metal furniture represents the latest development in the art of die casting combined with the latest in the art of shaping steel. The steel gives strength where it is most required and the die cast parts permit new freedom of design.

New Low Priced Laundry Machine Does Work Faster

A new laundry machine, of the forty-two inch by eighty-four inch size, which was recently placed on sale, is a low priced all metal machine and is being manufactured in large quantities. The decision to attempt quantity production of a machine of this type was made after representatives of the factory had completed an expansive survey of the laundry field in an attempt to determine the most desired features of a laundry machine.

The most popular machine today is of this size, for while it is large enough to give economy in volume washing, having a capacity of 350 pounds dry weight, still it is not too large to be practical for use in small laundries, such as are found in many hospitals.



The machines can be had either motor or belt driven.

One of the features of this machine is that it has a flat-sided cylinder in which the number of rivets has been reduced to a minimum. The flat sides have been found to hasten considerably the washing process, and the inside surfaces have been finished and polished so nearly to perfection that wear and tear on the wash is almost negligible.

The machine is handsomely finished and has all gears, belts, motor and moving parts enclosed in heavy steel safety casings.